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UNITED STATES  
ENVIRONMENTAL PROTECTION AGENCY  
REGION 10

IN THE MATTER OF:

Portland Harbor Superfund Site  
Arkema Inc. Facility  
Portland, Oregon

Arkema Inc.  
a Pennsylvania Corporation

Respondent.

) ADMINISTRATIVE ORDER ON  
) CONSENT FOR REMOVAL ACTION  
)  
) U.S. EPA Region 10  
) Docket No. CERCLA 10-2005-0191  
)  
) Proceeding Under Sections 104,  
) 106(a), 107 and 122 of the  
) Comprehensive Environmental  
) Response, Compensation, and  
) Liability Act, as amended, 42 U.S.C.  
) §§ 9604, 9606(a), 9607 and 9622  
)





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## **I. JURISDICTION AND GENERAL PROVISIONS**

1. This Administrative Order on Consent (Order) is entered into voluntarily by the United States Environmental Protection Agency, Region 10 (EPA) and Arkema Inc. (Respondent). This Order provides for the performance of a non-time-critical removal action by Respondent and the reimbursement of response costs incurred by the United States and Tribal Governments at or in connection with the removal action at Arkema Inc.'s facility, located at 6400 NW Front Avenue, Portland, Oregon, which is partly within the currently known boundaries of the Portland Harbor Superfund Site Assessment Area in Portland, Oregon.

2. This Order is issued under the authority vested in the President of the United States by Sections 104, 106(a), 107 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9604, 9606(a), 9607 and 9622, as amended (CERCLA).

3. EPA has notified the State of Oregon Department of Environmental Quality (DEQ) of this action pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

4. EPA and Respondent recognize that this Order has been negotiated in good faith and that the actions undertaken by Respondent in accordance with this Order do not constitute an admission of any liability. Respondent does not admit, and retains the right to controvert in any subsequent proceedings, other than proceedings to implement or enforce this Order, the validity of the findings of fact, conclusions of law, and determinations in Sections IV and V of this Order. Respondent agrees: (1) to undertake all Work required by this Order and comply with and be bound by the terms of



this Order, subject to the dispute resolution process, and; (2) further agrees that it will not contest EPA's authority to issue or enforce this Order, or the basis or validity of this Order or its terms as an EPA jurisdictional matter.

5. EPA has entered into a Memorandum of Understanding for the Portland Harbor Site (the "MOU") with, among others, the Confederated Tribes and Bands of the Yakama Nation, the Confederated Tribes of the Grand Ronde Community of Oregon, the Confederated Tribes of Siletz Indians, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes of the Warm Springs Reservation of Oregon, and the Nez Perce Tribe (collectively, "the Tribal Governments") to acknowledge the federal government's consultation requirements concerning the Portland Harbor Superfund Site, and to ensure the Tribal Governments' participation in the response actions at the Portland Harbor Superfund Site, including early actions.

6. The Tribal Governments have treaty-reserved rights and resources and other rights, interests, or resources in the Site. The National Oceanic and Atmospheric Administration, the United States Department of the Interior, the Oregon Department of Fish & Wildlife, and the Tribal Governments are designated Natural Resource Trustees overseeing the assessment of natural resource damages at the Site. To the extent practicable, and if consistent with the objectives of the removal action, the work under this Order will be conducted so as to be coordinated with any natural resource damage assessment and restoration of the Portland Harbor Superfund Site. The Tribal Governments and the federal and state Natural Resource Trustees will be provided an opportunity to review and comment on plans, reports, and other deliverables submitted by Respondent to EPA under this Order.

7. EPA and DEQ have agreed to share responsibility for investigation and cleanup of the Portland Harbor Superfund Site. DEQ is the lead agency for conducting upland work necessary for source control, and EPA is the support agency for that work. EPA is lead agency for conducting in-water work, including coordination of EPA's lead work with DEQ's source identification and source control activities. DEQ is the support agency for EPA's in-water work. DEQ will be provided an opportunity to review and comment on plans, reports, and other deliverables that Respondent submits to EPA under this Order. EPA will determine when sources have been controlled sufficiently for the selected removal action to be implemented under this Order. Upon entering into this Order, EPA will use best efforts to coordinate with DEQ to minimize duplication of work or inconsistencies between the removal action and the Upland Source Control Action.

8. To the extent practicable and consistent with the objectives of this removal action, the work under this Order will be coordinated with work implemented under the Administrative Order on Consent for Remedial Investigation and Feasibility Study of the Site, dated September 29, 2001, Docket No. CERCLA-10-2001-0240.

## **II. PARTIES BOUND**

9. This Order applies to and is binding upon EPA and upon Respondent and its successors and assigns. Any change in ownership or status of Respondent including, but not limited to, any transfer of assets or real or personal property, shall not alter Respondent's responsibilities under this Order.

10. Respondent shall ensure that its contractors, subcontractors, and representatives receive a copy of this Order prior to performing any work on the project,

and that they comply with this Order. Respondent shall be responsible for any noncompliance with this Order.

### **III. DEFINITIONS**

11. Unless otherwise expressly provided herein, terms used in this Order which are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Order or in the appendices attached hereto and incorporated hereunder, the following definitions shall apply:

a. "Arkema Site" shall mean that portion of the former chemical manufacturing facility, located at 6400 NW Front Avenue, Portland, Multnomah County, Oregon, and areas adjacent to it where hazardous substances or pollutants or contaminants from the facility have been released, disposed of, and/or otherwise come to be located. A map generally depicting the upland portion of the Arkema Site based on current information is attached as Appendix A to this Order.

b. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601, *et seq.*

c. "Day" shall mean a calendar day. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday, or Federal holiday, the period shall run until the close of business of the next working day.

d. "DEQ" or "State" shall mean the State of Oregon Department of Environmental Quality and any successor departments or agencies thereof.



e. "Effective Date" shall be the effective date of this Order as provided in Section XXX.

f. "Engineering Evaluation/Cost Analysis" (EE/CA) shall have the definition and attributes described in the NCP, as may be modified by this Order.

g. "EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

h. "Future Response Costs" shall mean all costs of removal action related to this Order incurred by the United States not inconsistent with the National Contingency Plan. Future Response Costs, include, but are not limited to, direct and indirect costs incurred in: scoping, planning, developing and negotiating this Order prior to the Effective Date, and after the Effective Date, reviewing or developing plans, reports and other items pursuant to this Order; verifying the work; coordinating with DEQ, the Tribal Governments, and Natural Resource Trustees regarding the removal action; cooperative agreement or other interagency agreement costs related to the removal action; or otherwise implementing, overseeing, or enforcing this Order, including but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, costs associated with EPA's preparation of any decision documents (including any Action Memoranda or EE/CA approval memo), the costs incurred pursuant to Paragraph 29 (costs and attorneys fees and any monies paid to secure access, including the amount of just compensation), Paragraph 39 (emergency response), and Paragraph 68 (work takeover), as well as any other enforcement activities undertaken by EPA or the U.S. Department of Justice related to this Order and removal action. Future Response Costs shall not include the costs of oversight or data gathered by EPA concerning any other response action or Order.

associated with the Portland Harbor Superfund Site. Future Response Costs shall not include costs incurred by any department, instrumentality, or agency of the United States that are not related to overseeing the Work, providing technical or legal support to EPA, or assessing human health issues related to the Arkema Site or this Order.

i. "National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.

j. "Interest" shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually on October 1 of each year, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year.

k. "Order" shall mean this Administrative Order on Consent and all appendices attached hereto (listed in Section XXIX). In the event of conflict between this Order and any appendix, this Order shall control.

l. "Paragraph" shall mean a portion of this Order identified by an Arabic numeral.

m. "Parties" shall mean EPA and Respondent.

n. "Portland Harbor Superfund Site" shall mean the site in Portland, Multnomah County, Oregon listed on the National Priorities List (NPL) on December 1, 2000. 65 Fed. Reg. 75179-01. The Portland Harbor Superfund Site consists of the areal extent of contamination, including all suitable areas in proximity to the contamination

necessary for implementation of response action, at, from and to the Portland Harbor Superfund Site Assessment Area from approximately River Mile 3.5 to River Mile 9.2 (Assessment Area), including uplands portions of the Site that contain sources of contamination to the sediments at, on, or within the Willamette River. The boundaries of the Site will be initially determined upon issuance of a Record of Decision for the Portland Harbor Superfund Site.

o. "Removal Action Area" or "RAA" shall mean the areal extent of the removal action to be performed under this Order. Areas where sampling and characterization activities, and studies or analysis are necessary are preliminarily within the RAA. The final boundaries of the RAA for implementation of the removal action will be established in the EE/CA. A map illustrating the preliminary boundaries of the RAA based on current information is attached as Appendix A to this Order.

p. "RCRA" shall mean the Solid Waste Disposal Act, as amended, 42 U.S.C. §§ 6901, *et seq.* (also known as the Resource Conservation and Recovery Act).

q. "Section" shall mean a portion of this Order identified by a Roman numeral.

r. "Statement of Work" or "SOW" shall mean the statement of work for implementation of the removal action, as set forth in Appendix B to this Order, and any modifications made thereto in accordance with this Order.

s. "Tribal Response Costs" shall mean all direct and indirect costs that the Tribal Governments and their employees, agents, contractors, consultants and other authorized representatives will incur in coordinating and consulting with EPA in conjunction with EPA's planning and implementation of this Order. Tribal Response costs



are only those costs incurred to fulfill the requirements of this Order, including review of plans, reports, assessments and notes prepared pursuant to this Consent Order; development of common positions and coordination among the Tribes; briefings to tribal leaders and tribal communities; and scoping, planning, and negotiating this Consent Order and budgets, which are not inconsistent with the NCP, 40 C.F.R. Part 300, are authorized as recoverable response costs pursuant to Sections 104 and 107 of CERCLA, 42 U.S.C. §§ 9604 and 9607 and are required to be paid by this Consent Order.

t. "Upland Source Control Action" shall mean the remedial investigation and feasibility study, pilot treatability studies, and remedial source control action(s), whether interim or final, on the Arkema Site, that Arkema Inc. is performing and may perform in the future under a Voluntary Cleanup Agreement with DEQ.

u. "Waste Material" shall mean 1) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); 2) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); 3) any "solid waste" under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27); and 4) any "hazardous substance" under ORS 465.200 *et seq.*

v. "Work" shall mean all activities Respondent is required to perform under this Order.

#### **IV. FINDINGS OF FACT**

12. EPA finds the following facts which Respondent neither admits nor denies:

a. Respondent, Arkema Inc., (previously known as ATOFINA Chemicals, Inc.), a Pennsylvania Corporation, owns the Arkema Site, located at 6400

NW Front Avenue, Portland, Multnomah County, Oregon. The Arkema Site is adjacent to the Willamette River, at approximately river mile 7.5. A portion of the Arkema Site is within the boundaries of the Portland Harbor Superfund Site Assessment Area. All manufacturing operations have ceased at the facility, and significant demolition of the facility's buildings has occurred.

b. Historical manufacturing operations began in 1941 by Pennsylvania Salt Manufacturing, later known as Pennwalt Corporation. Between 1941 and 2001, various chemicals were produced at the facility, including but not limited to, sodium chlorate, potassium chlorate, chlorine, sodium hydroxide, dichlorodiphenyltrichloroethane (DDT), sodium orthosilicate, magnesium chloride hexahydrate, ammonia, hydrogen, ammonium perchlorate, and hydrochloric acid.

c. In 1990, Pennwalt's operations were combined with those of two other subsidiaries of Elf Aquitaine, and the new combined company was named, Elf Atochem North America, Inc. In 2000, Elf Aquitaine merged with TOTALFINA and formed TOTALFINA ELF and Elf Atochem became ATOFINA Chemicals, Inc. In 2004, ATOFINA Chemicals, Inc. changed its name to Arkema Inc.

d. Waste from the manufacture of DDT that contained DDT, chlorobenzene, and spent sulfuric acid was discharged to a floor drain in the DDT process building from approximately 1947 to 1948. The floor drain is believed to have been connected to a pipe that discharged to the Willamette River. From 1948 until 1954, DDT manufacturing process waste was discharged directly to an unlined on-site settling pond, which was expanded to include a 285-foot overflow trench in 1950. A monochlorobenzene recovery plant was added in 1950. Sodium and ammonium

perchlorate were manufactured at the Arkema Site from 1958 until 1962. Releases of perchlorate occurred during the manufacturing process from the sodium chlorate process area and the ammonium perchlorate process area. Sodium chlorate was manufactured on site from 1941 until 2001. Sodium bichromate, which contains hexavalent chromium, was used in the chlorate manufacturing process. Releases of hexavalent chromium occurred during the manufacture of sodium chlorate in the sodium chlorate process area.

e. Historic operational practices have resulted in releases of hazardous substances in soils, stormwater, groundwater, and Willamette River sediments on and adjacent to portions of the Arkema Site. DDT concentrations exceed 1 part per million (ppm) in groundwater (unfiltered geoprobe sample), 20 ppm in surface sediments, and 1,000 ppm in subsurface sediment which exceed the following screening criteria: the published ecological probable effects level (PEL) of 4,450 parts per billion (ppb) (NOAA, 1999) in sediment and the acute aquatic water quality criteria (AWQC) of 0.55 ppb. DDT and its breakdown products have been found in resident fish species in the Willamette River. Chlorobenzene has been detected in upland monitoring wells at concentrations up to 292 ppm in groundwater and 64 ppm in shallow groundwater under the sediment off the facility, several orders of magnitude above the AWQC for chlorobenzene of 250 ppb. The presence of chlorobenzene (a solvent) in groundwater enables transport of the DDT to sediment and the water column in the Willamette River. Perchlorate in upland monitoring wells at the site has been found in groundwater at concentrations up to 290 ppm and in the shallow groundwater under the sediment at concentrations up to 370 ppm. Recent studies from Texas Tech University indicate adverse ecological effects occur at concentrations of 147 ppb perchlorate. Hexavalent



chromium concentrations exceeded 26 ppm in shallow groundwater (in an unfiltered Geoprobe sample), several orders of magnitude above the AWQC for hexavalent chromium of 16 ppb. The highest groundwater result for hexavalent chromium from an upland monitoring well was 9.79 ppm.

## **V. CONCLUSIONS OF LAW AND DETERMINATIONS**

13. Based on the Findings of Fact set forth above EPA has determined that:

- a. The Arkema Site is a “facility” as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).
- b. The contamination found on and adjacent to the Arkema Site, as identified in the Findings of Fact above, includes “hazardous substances” as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), and/or pollutants or contaminants which may present an imminent and substantial danger to the public health or welfare.
- c. Respondent is a “person” as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).
- d. Respondent is a responsible party under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), and is liable for performance of response action and for response costs incurred and to be incurred for the Arkema Site. Respondent is an “owner” and/or “operator” of the Arkema Site, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(1) of CERCLA, 42 U.S.C. § 9607(a)(1); and/or arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment of hazardous substances at the facility, within the meaning of Section 107(a)(3) of CERCLA, 42 U.S.C. § 9607(a)(3).

e. The conditions described in the Findings of Fact above constitute an actual or threatened "release" of a hazardous substance from the facility as defined by Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

f. The removal action required by this Order is necessary to protect the public health, welfare, or the environment and, if carried out in compliance with the terms of this Order, will be considered consistent with the NCP, as provided in Section 300.700(c)(3)(ii) of the NCP.

g. A planning period of at least six months exists before field activities beyond sampling and related scoping activities required by this Order must be initiated.

## **VI. ORDER**

14. Based upon the foregoing Findings of Fact, Conclusions of Law, Determinations, and the administrative record for the Arkema Site, it is hereby Ordered and Agreed that Respondent shall comply with all provisions of this Order, including, but not limited to, all attachments to this Order and all documents incorporated by reference into this Order.

## **VII. DESIGNATION OF CONTRACTOR, PROJECT COORDINATOR**

15. Respondent shall retain one or more contractors to perform the work and shall notify EPA of the name(s) and qualifications of such contractor(s) within 10 days of the Effective Date. Respondent shall also notify EPA in writing of the name(s) and qualification(s) of any other contractor(s) or subcontractor(s) retained to perform the Work at least 7 days prior to that contractor's or subcontractor's commencement of such Work. EPA retains the right to disapprove any or all of the contractors and/or

subcontractors retained by Respondent. If EPA disapproves a selected contractor, Respondent shall retain a different contractor and shall notify EPA of that contractor's name and qualifications within 10 days of EPA's disapproval.

16. Within 7 days after the Effective Date, Respondent shall designate a Project Coordinator who shall be responsible for administration of all actions by Respondent required by this Order and shall submit to EPA the designated Project Coordinator's name, address, telephone number, and qualifications. To the greatest extent possible, the Project Coordinator shall be present or readily available during field work. EPA retains the right to disapprove the designated Project Coordinator. If EPA disapproves the designated Project Coordinator, Respondent shall retain a different Project Coordinator and shall notify EPA of that person's name, address, telephone number, and qualifications within 10 days following EPA's disapproval. Receipt by Respondent's Project Coordinator of any notice or communication from EPA relating to this Order shall constitute receipt by Respondent.

17. EPA has designated Sean Sheldrake of the Office of Environmental Cleanup (ECL), Region 10, as its Project Coordinator. Except as otherwise provided in this Order, Respondent shall direct all submissions required by this Order to the EPA Project Coordinator at 1200 Sixth Avenue, M/S ECL-111, Seattle, WA 98101 via hardcopy and electronic files to sheldrake.sean@epa.gov. Upon request by EPA, Respondent will also provide submissions on a compact disc.

18. EPA and Respondent shall have the right, subject to Paragraph 16, to change their respective designated Project Coordinator. Respondent shall notify EPA 7



days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notice.

### **VIII. WORK TO BE PERFORMED**

19. Respondent shall perform, at a minimum, all actions necessary to implement the Statement of Work (SOW), which is attached as Appendix B.

20. The EPA Guidance on Conducting Non-Time-Critical Removal Actions under Superfund (OSWER Directive 9360.0-32) and any additional relevant guidance shall be followed in implementing the SOW.

21. The removal action will address, at a minimum, the principal threat contamination extending from the top of the riverbank on the Arkema Site into the Willamette River, including unsubmerged and submerged lands. It is anticipated that upland source control action(s) will occur outside of the RAA, but if necessary to reduce the potential of recontamination to the in-water Work or achieve the Removal Action Objectives, the evaluation and implementation of hydraulic control measures will be required in accordance with the process and schedule for evaluation of the uplands source control program as set forth in the SOW. The Removal Action Objectives for this removal are listed in the SOW that is attached as Appendix B to this Order. Additional objectives may be identified for the action through the EE/CA process.

22. For all Work, EPA may approve, disapprove, require revisions to, or modify a deliverable in whole or in part. EPA approvals, requested revisions, or disapprovals will be in writing. If EPA requires revisions, Respondent shall submit a revised deliverable within 30 days of receipt of EPA's notification of the required revisions, unless otherwise noted in the SOW, and subject to Section XVI (Dispute Resolution) of this Order.

Respondent shall implement the work as approved in writing by EPA in accordance with the schedule approved by EPA. Once approved, or approved with modifications, the work and the schedule, and any subsequent modifications, shall be incorporated into and become fully enforceable under this Order.

23. Respondent shall not commence any work except in conformance with the terms of this Order. Respondent shall not commence implementation of the work developed hereunder until after receiving written EPA approval pursuant to Paragraph 22 of this Order.

24. Quality Assurance and Sampling.

a. All sampling and analyses performed pursuant to this Order shall conform to EPA direction, approval, and guidance regarding sampling, quality assurance/quality control ("QA/QC"), data validation, and chain-of-custody procedures. Respondent shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with the appropriate EPA guidance. Respondent shall follow, as appropriate, "Quality Assurance/Quality Control Guidance for Removal Activities: Sampling QA/QC Plan and Data Validation Procedures" (OSWER Directive No. 9360.4-01, April 1, 1990), as guidance for QA/QC and sampling. Respondent shall only use laboratories that have a documented Quality System that complies with ANSI/ASQC E-4 1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1995). A Quality Assurance Project Plan shall be prepared for each sample collection activity in accordance with: (1) "EPA Requirements for Quality Management Plans (QA/R5) (2001)" or the most current version; (2) for data

validation, "Guidance on Environmental Data Verification and Validation, EPA QA/G8 (2002)", or the most current version; and (3) the EPA Functional Guidelines for Data Review. EPA may consider laboratories accredited under the National Environmental Laboratory Accreditation Program ("NELAP") as meeting the Quality System requirements.

b. Upon written request by EPA, Respondent shall have such a laboratory analyze samples submitted by EPA for QA monitoring. Respondent shall provide to EPA the QA/QC procedures followed by all sampling teams and laboratories performing data collection and/or analysis.

c. Upon request by EPA, Respondent shall allow EPA or its authorized representatives to take split and/or duplicate samples. Respondent shall notify EPA not less than 14 days in advance of any sample collection activity, unless shorter notice is agreed to by EPA. EPA shall have the right to take any additional samples that EPA deems necessary. EPA shall use its best efforts to notify Respondent not less than 14 days in advance of any sample collection activity EPA conducts, and allow Respondent to take split or duplicate samples of any samples it takes as part of its oversight of Respondent's implementation of the Work.

25. Reporting.

a. After the Effective Date and until EPA issues a Notice of Completion of Work pursuant to Section XXVIII, Respondent shall submit a written progress report to EPA concerning actions undertaken pursuant to this Order on the fifteenth day of each month, unless otherwise directed in writing by the EPA Project Coordinator. These reports shall describe all significant developments during the

preceding period, including the actions performed and any problems encountered, analytical data received during the reporting period, and the developments anticipated during the next reporting period, including a schedule of actions to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

b. Respondent shall, at least 30 days prior to the conveyance of any interest in the Arkema Site, give: (1) written notice to the transferee that the RAA is subject to this Order; and (2) written notice to EPA of the proposed conveyance, including the name and address of the transferee. Such notices shall be given even if the property transferred is not within the RAA. Respondent shall also, as a condition of the transfer, require that the transferee and its successors comply with Sections IX (Site Access) and X (Access to Information) of this Order unless, based on the specific circumstances of the transfer and/or transferee, EPA determines that conditioning the transfer in that manner is not necessary.

26. Final Removal Completion Report. Within 60 days after completion of all work required by this Order, Respondent shall submit for EPA review and approval a final report summarizing the actions taken to comply with this Order. The final report shall conform, at a minimum, with the requirements set forth in Section 300.165 of the NCP entitled "OSC Reports" and with "Superfund Removal Procedures: Removal Response Reporting - POLREPS and OSC Reports" (OSWER Directive No. 9360.3-03, June 1, 1994). The final report shall include a listing of quantities and types of Waste Materials removed off-site or handled on-site, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destination(s) of those materials, a presentation of the analytical results of all sampling and analyses performed,

and accompanying appendices, containing all relevant documentation generated during the removal action (e.g., manifests and permits). The final report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

“Under penalty of law, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

27. Off-Site Shipments.

a. Respondent shall, prior to any off-site shipment of Waste Material from the RAA under this Order to an out-of-state waste management facility, provide written notification of such shipment of Waste Material to the appropriate state environmental official in the receiving facility's state and to the EPA Project Coordinator. However, this notification requirement shall not apply to any off-site shipments when the total volume of all such shipments will not exceed 10 cubic yards.

i. Respondent shall include in the written notification the following information: 1) the name and location of the facility to which the waste material is to be shipped; 2) the type and quantity of the waste material to be shipped; 3) the expected schedule for the shipment of the Waste Material; and 4) the method of transportation. Respondent shall notify the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the waste material to another facility within the same state, or to a facility in another state.

ii. The identity of the receiving facility and state will be determined by Respondent following the award of the contract for the removal action.

Respondent shall provide the information required by Paragraph 27(a) and 27(b) as soon as practicable after the award of the contract and before the Waste Material is actually shipped.

b. Before shipping any hazardous substances, pollutants, or contaminants from the RAA to an off-site location, Respondent shall obtain EPA's certification that the proposed receiving facility is operating in compliance with the requirements of CERCLA Section 121(d)(3), 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondent shall only send hazardous substances, pollutants, or contaminants from the RAA to an off-site facility that complies with the requirements of the statutory provision and regulation cited in the preceding sentence.

#### **IX. ACCESS/INSTITUTIONAL CONTROLS**

28. If any portion of the RAA, or any other property where access is needed to implement this Order, is owned or controlled by Respondent, Respondent shall, commencing on the Effective Date, provide EPA and DEQ, their representatives, including contractors or agents, with access at all reasonable times to the RAA, or such other property, for the purpose of conducting any activity related to this Order. Respondent shall, commencing on the Effective Date and, after reasonable advance notice unless accompanied by EPA or DEQ, provide the designated representatives of the Tribal Governments, and Natural Resource Trustees, and their representatives, including contractors, with access at all reasonable times to the RAA, or such other property, for the purpose of consulting on the Work required under this Order or, in the case of cultural resource issues, overseeing the Work required under this Order. All government agencies or governments will use their best efforts to notify Respondent before they intend to

access the RAA or such other property, but advance notice is not a condition for Respondent's agreement to provide access. All government agency and Tribal Government representatives, will be responsible for adhering to their health and safety protocols, and any specific precautions Respondent provides. If, during or after the removal action is complete, restrictions on the use of Respondent's property, including beds or banks of the river, is necessary to protect public health, welfare, or the environment or maintain the removal action or avoid exposure to hazardous substances, pollutants or contaminants, Respondent shall take any and all actions to establish, implement, and maintain the necessary institutional controls. Respondent shall establish, implement, and maintain the necessary institutional controls on the schedule and for the duration determined necessary by EPA before or after the EE/CA and/or any subsequent work plans or reports developed under this Order.

29. Where any action under this Order is to be performed on property or in areas owned by or in possession of someone other than Respondent, Respondent shall use best efforts to obtain all necessary access agreements within 45 days after EPA notifies Respondent that such access is needed. The access agreements shall provide access to EPA, DEQ, the Tribal Governments, and Natural Resource Agencies to the same extent as provided in Paragraph 28 above. If, during or after the removal action is complete, restrictions on the use of property are necessary and such property is owned by or in the possession of someone other than Respondent, Respondent shall use best efforts to establish and implement controls it has the capability of implementing, or have such use restrictions established and implemented by the owner. Respondent shall notify EPA if, after using its best efforts, it is unable to obtain access agreements or use restrictions. In

such notice, Respondent shall describe in writing its efforts to obtain access or the use restrictions. For purposes of this Paragraph, "best efforts" includes the payment of reasonable sums of money in consideration of access or loss of use unless EPA has determined the off-site property owner is a potentially responsible party under Section 107(a) of CERCLA for the Portland Harbor Superfund Site. EPA may then assist Respondent in gaining access or establishing use restrictions, to the extent necessary to effectuate the response action or maintain it as described herein, using such means as EPA deems appropriate. Respondent shall reimburse EPA for all costs and attorney's fees incurred by the United States in obtaining such access or use restrictions, in accordance with the procedures in Section XV (Payment of EPA and Tribal Response Costs).

30. Notwithstanding any provision of this Order, EPA retains all of its access authorities and rights, as well as all of its rights to require land/water use restrictions, including enforcement authorities related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

#### **X. ACCESS TO INFORMATION**

31. Respondent shall provide copies to EPA, upon request, of all documents and information within its possession or control or that of its contractors or agents relating to the Arkema Site or to the implementation of this Order, including, but not limited to, sampling, analysis, chain-of-custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Respondent shall also make available to EPA, upon request, for purposes of investigation, information gathering, or testimony, their



employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

32. Respondent may assert business confidentiality claims covering part or all of the documents or information submitted to EPA under this Order, to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Documents or information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when they are submitted to EPA, or if EPA has notified Respondent that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such documents or information without further notice to Respondent.

33. Respondent may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Respondent asserts such a privilege in lieu of providing documents, it shall provide EPA with the following: 1) the title of the document, record, or information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the contents of the document, record, or information; and 6) the privilege asserted by Respondent. However, no documents, reports or other information required to be created or generated by this Order shall be withheld on the grounds that they are privileged.

34. No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions at or around the Arkema Site.

#### **XI. RECORD RETENTION**

35. Until 10 years after Respondent's receipt of EPA's notification pursuant to Section XXVIII (Notice of Completion of Work), Respondent shall preserve and retain all non-identical copies of records and documents (including records or documents in electronic form) now in its possession or control or which come into its possession or control that relate in any manner to the performance of the work or the liability of any person under CERCLA with respect to the RAA, regardless of any internal retention policy to the contrary unless Respondent has received EPA's written permission to destroy such documents. Until 10 years after Respondent's receipt of EPA's notification pursuant to Section XXVIII (Notice of Completion of Work), Respondent shall also instruct its contractors and agents to preserve all documents, records, and information of whatever kind, nature or description relating to performance of the Work.

36. At the conclusion of this document retention period, Respondent shall notify EPA at least 90 days prior to the destruction of any such records or documents, and, upon request by EPA, Respondent shall deliver any such records or documents to EPA. Respondent may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Respondent asserts such a privilege, it shall provide EPA with the following:

1) the title of the document, record, or information; 2) the date of the document, record,

or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the subject of the document, record, or information; and 6) the privilege asserted by Respondent. However, no documents, reports or other information required to be created or generated by this Order shall be withheld on the grounds that they are privileged.

37. Respondent hereby certifies that, to the best of its knowledge and belief, after reasonable inquiry, it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information (other than identical copies) relating to its potential liability regarding the Portland Harbor Superfund Site since receipt of EPA's general notice letter dated December 8, 2000. Respondent hereby agrees that it will fully comply with any and all EPA requests for information pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927.

## **XII. COMPLIANCE WITH OTHER LAWS**

38. Respondent shall perform all actions required pursuant to this Order in accordance with all applicable local, state, and federal laws and regulations except as provided in Section 121(e) of CERCLA, 42 U.S.C. § 9621(e), and 40 C.F.R. §§ 300.400(e) and 300.415(j). In accordance with 40 C.F.R. § 300.415(j), all actions required pursuant to this Order shall, to the extent practicable, as determined by EPA, considering the exigencies of the situation, attain applicable or relevant and appropriate requirements (ARARs) under federal environmental, tribal environmental, or state environmental or facility siting laws. No local, state, or federal permit shall be required

for any action conducted entirely on-site, including studies, where such action is selected and carried out in compliance with this Order.

### **XIII. EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES**

39. In the event of any action or occurrence during performance of the Work which causes or threatens to cause a release of Waste Material from the RAA that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, as soon as Respondent knows of the emergency or immediate threat Respondent shall immediately take all appropriate action. Respondent shall take these actions in accordance with all applicable provisions of this Order, in order to prevent, abate or minimize such release or endangerment caused or threatened by the release. Respondent shall also immediately notify the EPA Project Coordinator or, in the event of his/her unavailability, the Regional Duty Officer, Environmental Cleanup Office, Emergency Response Unit, EPA Region 10, (206) 553-1263, of the incident or conditions. In the event that Respondent fails to take appropriate response action as required by this Paragraph, and EPA takes such action instead, Respondent shall reimburse EPA all costs of the response action not inconsistent with the NCP pursuant to Section XV (Payment of Response Costs).

40. In addition, in the event of any release of a hazardous substance from the RAA, as soon as Respondent has knowledge of the release, Respondent shall immediately notify the EPA Project Coordinator and the National Response Center at (800) 424-8802. Respondent shall submit a written report to EPA within 7 days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to

prevent the reoccurrence of such a release. This reporting requirement is in addition to, and not in lieu of, reporting under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11001, *et seq.*

#### **XIV. AUTHORITY OF EPA PROJECT COORDINATOR**

41. The EPA Project Coordinator shall be responsible for overseeing Respondent's implementation of this Order. The Project Coordinator shall have the authority vested in an On-Scene Coordinator (OSC) by the NCP, including the authority to halt, conduct, or direct any Work required by this Order, or to direct any other removal action undertaken at the Arkema Site, as well as the authority of a Remedial Project Manager (RPM) as set forth in the NCP. Absence of the EPA Project Coordinator from the Arkema Site shall not be cause for stoppage of work unless specifically directed by the EPA Project Coordinator.

#### **XV. PAYMENT OF EPA AND TRIBAL RESPONSE COSTS**

42. Payments for EPA Future Response Costs.

a. Respondent shall pay EPA all Future Response Costs not inconsistent with the NCP. On a periodic basis, EPA will send Respondent a bill requiring payment that includes a certified Agency Financial Management System summary (SCORPIOS) cost summary report or other regionally prepared cost summary. The bill will include Future Response Costs as defined in this Order. Respondent shall make all payments within 60 days of receipt of each bill requiring payment, except as otherwise provided in Paragraph 45 of this Order. Within the 60-day payment period, Respondent may request the following EPA oversight cost documentation: EPA personnel timesheets and/or payroll

reports; travel manager reports; EPA contractor monthly invoices; and all applicable contract laboratory program (CLP) invoices.

b. Respondent shall make all payments to EPA required by this Paragraph by a certified or cashier's check or checks made payable to "EPA Hazardous Substance Superfund-Portland Harbor Special Account," referencing the name and address of the Respondent, the Docket Number of this Order, and EPA Site/Spill ID number 10BX, and shall be clearly designated as Response Costs: Portland Harbor Superfund Site, Arkema Site. Respondent shall send the check(s) to:

Mellon Client Services Center  
EPA Region 10  
ATTN: Superfund Accounting  
P.O. Box 360903M  
500 Ross Street  
Pittsburgh, Pennsylvania 15251

c. At the time of payment, Respondent shall send notice that payment has been made to the Financial Management Officer, Environmental Protection Agency, Region 10, 1200 Sixth Avenue, M/S OMP-146, Seattle, Washington 98101-1128.

43. The total amount to be paid to EPA by Respondent pursuant to Paragraph 42(a) of this Order shall be deposited in the Portland Harbor Special Account within the EPA Hazardous Substance Superfund to be retained and used to conduct or finance actions at or in connection with the Portland Harbor Superfund Site, or to be transferred by EPA to the Hazardous Substance Superfund.

44. If payments for Future Response Costs are not made within 60 days of Respondent's receipt of a bill, Respondent shall pay Interest on the unpaid balance. The Interest on Future Response Costs shall begin to accrue on the date of Respondent's receipt of the bill and shall continue to accrue until the date of payment. Payments of

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Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondent's failure to make timely payments under this Section, including but not limited to, payment of stipulated penalties pursuant to Section XVIII.

45. Respondent may dispute all or part of a bill for Future Response Costs submitted under this Order, if Respondent alleges that EPA has made an accounting error, or if Respondent alleges that a cost item is inconsistent with the NCP or outside the scope of the Order. If any dispute over costs is resolved before payment is due, the amount due will be adjusted as necessary. If the dispute is not resolved before payment is due, Respondent shall pay the full amount of the uncontested costs to EPA as specified in Paragraph 42(b) of this Order on or before the due date. Within the same time period, Respondent shall pay the full amount of the contested costs into an interest-bearing escrow account. Respondent shall simultaneously transmit a copy of both checks to the persons listed in Paragraph 42(b) above, together with a copy of the correspondence that established and funds the escrow account, including, but not limited to, information containing the identity of the bank and bank account under which the escrow account is established as well as a bank statement showing the initial balance of the escrow account. Respondent shall ensure that the prevailing party or parties in the dispute shall receive the amount upon which they prevailed from the escrow funds plus interest within 10 days after the dispute is resolved.

46. Payment of Past Tribal Response Costs.

a. Respondent shall notify the Tribal Governments in writing within forty-five (45) days of receipt of invoices for the Tribal Governments' past Tribal

Response Costs whether Respondent approves them for payment. For all past Tribal Response Costs not approved by Respondent, this written notice must include a detailed justification for non-approved response costs. Past response costs for which Tribal Governments do not receive written notice within forty-five (45) days are deemed approved and uncontested. Respondent and the Tribal Governments may negotiate to reach agreement on past cost payments. Respondent shall pay approved response costs within thirty (30) days of the date of Respondent's notice of the approval. The invoices shall cover the Tribal Governments' costs incurred for the period between notification by EPA of the possible early action on May 13, 2004 and the effective date of this Consent Order. The Tribal Governments' supporting documentation shall consist of the documentation set forth in Attachment 1, which shall include Tribal personnel timesheets, travel expense reports, and documentation and contractor invoices.

b. Respondent and the Tribal Governments reserve all rights and claims they may have regarding any amounts in the past cost invoices not approved and paid by Respondent. Respondent reserves all rights, privileges, and defenses it may have to challenge and/or defend such claims. All claims arising from and related to unpaid Tribal Response Costs shall be brought in the United States District Court for the District of Oregon.

c. Respondent may, in its sole discretion, dispute all or part of an invoice for Past Tribal Response Costs submitted under this Consent Order, if Respondent alleges that the Tribal Government has made an accounting error, if Respondent alleges that a cost item is inconsistent with the NCP, if Respondent alleges that a cost item is not within the scope of work identified in Paragraph 46(a) of this



Order, or if Respondent alleges that it does not have enough documentation to determine whether the Past Tribal Response costs are in error, inconsistent with the NCP, not authorized under CERCLA, or not within the scope of work identified in Paragraph 46(a) of this Order. Respondent shall identify any disputed costs and the basis for its objection. Respondent shall bear the burden of establishing facts sufficient to support its allegation(s). Disputes of Past Tribal Response Costs shall be handled pursuant to Paragraph 47.e.

47. Payment of Future Tribal Response Costs.

a. After the effective date of this Consent Order, Respondent shall pay the Tribal Governments, in advance, for Tribal Response Costs incurred pursuant to this Consent Order.

b. Within thirty (30) days of the effective date of this Consent Order, and at the same time each year thereafter until EPA issues a Notice of Completion of Work, Respondent and the Tribal Governments shall meet to discuss the work to be performed under this Order for the current twelve-month period following the effective date and to negotiate an estimated annual budget for Tribal Response Costs. The Tribal Governments shall develop a reasonable estimated budget (with an appropriate contingency) for Tribal Response Costs for the twelve-month period, which shall separately identify anticipated costs for each Tribal Government and the shared technical consultant. The estimated annual budget shall separately identify the activities to be performed with an estimate of costs associated with such types of activities. Within thirty (30) days of the date of Respondent's written notification to the Tribal Governments of Respondent's approval of the estimated budget, Respondent shall remit a

check for the amount identified in the approved estimated budget made payable to the corresponding Tribal Government at the appropriate address. The amount identified for the shared technical consultant shall be sent to the Confederated Tribes of the Umatilla Indian Reservation. Respondent and the Tribal Governments reserve all rights and claims they may have regarding any amounts in the estimated budget not approved and paid by Respondent. Respondent reserves all rights, privileges and defenses it may have to challenge and/or defend such claims. All claims arising from and related to unpaid Tribal Response costs shall be brought in the United States District Court for the District of Oregon. The addresses of the Tribal Governments are as follows:

**The Confederated Tribes of the Grand Ronde Community of Oregon**

Attn: Accounting Department  
The Confederated Tribes of the Grand Ronde Community of Oregon  
9615 Grand Ronde Road  
Grand Ronde, Oregon 97347

**The Confederated Tribes of Siletz Indians of Oregon**

Attn: Karen Bell  
Accounting Department  
The Confederated Tribes of Siletz Indians of Oregon  
P.O. Box 549  
Siletz, Oregon 97380

**The Confederated Tribes of the Umatilla Indian Reservation**

Attn: Accounts Receivable, Finance Department  
The Confederated Tribes of the Umatilla Indian Reservation  
P.O. Box 638  
Pendleton, Oregon 97801

**The Confederated Tribes of the Warm Springs Reservation of Oregon**

Attn: Finance Department  
The Confederated Tribes of the Warm Springs Reservation of Oregon  
P.O. Box C  
Warm Springs, Oregon 97761

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**The Nez Perce Tribe**

Attn: Office of Legal Counsel  
The Nez Perce Tribe  
P.O. Box 305  
Lapwai, Idaho 83540

**The Confederated Tribes and Bands of the Yakama Nation**

Central Accounting  
The Confederated Tribes and Bands of the Yakama Nation  
P.O. Box 151  
Toppenish, WA 98948

c. Within thirty (30) days of the close of the twelve-month estimated budget period, the Tribal Governments shall provide supporting documentation to the Respondent for Response Costs reimbursed by the Respondent. The Tribal Governments' supporting documentation shall consist of the documentation set forth in Attachment 1, which shall include Tribal personnel timesheets; travel expense reports and documentation; and contractor invoices.

d. In the event that the Tribal Governments have overestimated the amount of funding required for a twelve-month period and the Respondent has paid more than the amount of Tribal Response Costs incurred for work during such twelve-month period, the Tribal Governments shall apply such overpayments to reimburse Tribal Response Costs in the following twelve-month period. To the extent that the Tribal Governments have incurred Tribal Response costs in addition to the estimated budget for the twelve-month period, the additional costs shall be included in the estimate for the subsequent twelve-month period. At the completion of the work under this Order, all unexpended funds advanced to the Tribal Governments for Tribal Response Costs shall be refunded to Respondents.

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e. Following the receipt of support documentation provided in Subsection c. above, Respondent may dispute all or a portion of Tribal Response Costs reimbursed or not approved by Arkema during the previous twelve-month period under this Consent Order, if Respondent alleges that the Tribal Government has made an accounting error, if Respondent alleges that a cost item is inconsistent with the NCP, if Respondent alleges that a cost item is not within the scope of the budget identified in Paragraph 47(a) and (b) of this Order, or if Respondent alleges that the Tribal Governments failed to provide the documentation required in Paragraph 47(c) . Respondent shall identify any disputed costs and the basis for its objection. Respondent shall bear the burden of establishing facts in support of its allegations. Respondent, in its sole discretion, may choose to invoke the dispute resolution provisions of Section XVI, provided that Respondent's notice of its objections under Paragraph 48 shall be made to the appropriate Tribal Government, in addition to EPA, and the appropriate Tribal Government shall prepare a written response to Respondent's written objections. EPA shall make the final decision on the dispute subject to the rights reserved by Respondent and the Tribal Governments in this Order. Nothing in this Paragraph shall in any way be construed to limit the rights of the Tribal Governments to seek to recover response costs incurred by the Tribal Governments related to this Consent Order and not reimbursed by Respondent, and for natural resource liability. Nothing in this Paragraph shall in any way be construed to limit any rights, privileges and defenses Respondent may have to challenge and/or defend claims arising from or related to unpaid Tribal response costs or natural resource liability. All claims arising from and related to Tribal Response Costs

and natural resource liability shall be brought in the United States District Court for the District of Oregon.

#### **XVI. DISPUTE RESOLUTION**

48. Unless otherwise expressly provided for in this Order, the dispute resolution procedures of this Section shall be the exclusive mechanism for resolving disputes arising under this Order. The Parties shall attempt to resolve any disagreements concerning this Order expeditiously and informally. In accordance with Section XV., Paragraphs 46(c) and 47(e) of this Order, the Tribal Governments shall provide written responses to Respondent's disputes about Tribal Response Costs, and Respondent and the Tribal Governments will engage in negotiations to resolve disputes in accordance with Paragraph 49 below. EPA will be the final decision maker pursuant to Paragraph 50 below.

49. If Respondent objects to any EPA action taken pursuant to this Order, including billings for Future Response Costs, they shall notify EPA in writing of their objection(s) within 14 days of such action, unless the objection(s) has/have been resolved informally, or EPA has agreed in writing to extend the informal dispute resolution period. Respondent's notice shall provide all of the reasons for its objections and attach any supporting information or documentation that it is relying on to raise the dispute. EPA and Respondent shall then have 30 days from EPA's receipt of Respondent's written objection(s) to resolve the dispute through formal negotiations (the "Negotiation Period") with EPA's Remedial Action Unit Manager. EPA may, in its sole discretion, prepare a written response to Respondent's written objections. The Negotiation Period may be

extended at the sole discretion of EPA. At EPA's discretion and approval, the dispute record may be supplemented during the Negotiation Period.

50. Any agreement reached by the parties pursuant to this Section shall be in writing and shall, upon signature by both parties, be incorporated into and become an enforceable part of this Order. If the Parties are unable to reach an agreement within the Negotiation Period, EPA's position shall be the final decision and binding upon Respondent, unless within 5 days of the end of the Negotiation Period, Respondent requests the determination of EPA Region 10's Director of the Office of Environmental Cleanup (ECL), which he or she may delegate to the Associate Director of ECL. The Director or Associate Director will issue a written decision on the dispute to Respondent based on the record created pursuant to Paragraph 49 above. EPA's decision shall be incorporated into and become an enforceable part of this Order. Respondent's obligations under this Order that are not affected by the disputed issue(s) shall not be tolled by submission of any objection for dispute resolution under this Section. Following resolution of the dispute, as provided by this Section, Respondent shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with EPA's decision, whichever occurs first.

#### **XVII. FORCE MAJEURE**

51. Respondent agrees to perform all requirements of this Order within the time limits established under this Order, unless the performance is delayed by a *force majeure*. For purposes of this Order, a *force majeure* is defined as any event arising from causes beyond the control of Respondent, or of any entity controlled by Respondent, including but not limited to their contractors and subcontractors, which delays or prevents

performance of any obligation under this Order despite Respondent's best efforts to fulfill the obligation. *Force majeure* does not include financial inability to complete the Work, or increased cost of performance, or a failure to attain performance standards/action levels selected by EPA.

52. If any event occurs or has occurred that may delay the performance of any obligation under this Order, whether or not caused by a *force majeure* event, Respondent shall notify EPA orally within 48 hours of when Respondent first knew that the event might cause a delay. Within 10 days thereafter, Respondent shall provide to EPA in writing an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Respondent's rationale for attributing such delay to a *force majeure* event if they intend to assert such a claim, including supporting documentation for such a claim; and a statement as to whether, in the opinion of Respondent, such event may cause or contribute to an endangerment to public health, welfare or the environment. Failure to comply with the above requirements shall preclude Respondent from asserting any claim of *force majeure* for that event for the period of time of such failure to comply and for any additional delay caused by such failure.

53. If EPA agrees that the delay or anticipated delay is attributable to a *force majeure* event, the time for performance of the obligations under this Order that are affected by the *force majeure* event will be extended by EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the *force majeure* event shall not, of itself, extend the time for

performance of any other obligation. If EPA does not agree that the delay or anticipated delay has been or will be caused by a *force majeure* event, EPA will notify Respondent in writing of its decision. In that event, Respondent may invoke the dispute resolution provisions of Section XVI. If EPA agrees that the delay is attributable to a *force majeure* event, EPA will notify Respondent in writing of the length of the extension, if any, for performance of the obligations affected by the *force majeure* event.

### **XVIII. STIPULATED PENALTIES**

54. Respondent shall be liable to EPA for stipulated penalties in the amounts set forth in Paragraphs 55 and 56 for failure to comply with the requirements of this Order specified below, unless excused under Section XVII (*Force Majeure*).

“Compliance” by Respondent shall include completion of the activities under this Order or any work plan or other plan approved under this Order identified below in accordance with all applicable requirements of law, this Order, all Appendices, and any plans or other documents approved by EPA pursuant to this Order and within the specified time schedules established by and approved under this Order.

55. Stipulated Penalty Amounts - Work.

a. The following stipulated penalties shall accrue per violation per day for any noncompliance identified in Paragraph 55(b):

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$ 500	1 <sup>st</sup> through 7 <sup>th</sup> day
\$ 1,000	8th through 14th day
\$ 2,500	15th through 30th day
\$ 5,000	31st day and beyond



b. The final and all submitted drafts of the following Compliance  
Milestones:

- (1) Draft and Final EE/CA Work Plan.
- (2) Draft and Final Removal Action Characterization Report
- (3) First and Second Draft and Final EE/CA Report
- (4) Draft and Final Biological Assessment and CWA Section  
404 Memoranda
- (5) Draft and Conceptual 30% removal action design
- (6) Draft and Pre-Final 90% removal action design
- (7) Draft and Final 100% removal action design
- (8) Draft and Final Removal Action Work Plan
- (9) Draft and Final Removal Action Completion Report

56. Stipulated Penalty Amounts - Reports, Other Non-Compliance, including  
late Payment of Future Response Costs. The following stipulated penalties shall accrue  
per violation per day for failure to submit timely or adequate final and all submitted draft  
reports or other written documents pursuant to this Order that are not listed in Paragraph  
55(b). The following stipulated penalties shall accrue per violation per day for any non-  
compliance with the requirements of this Order, including late payments of Future  
Response Costs.

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$ 250	1 <sup>st</sup> through 7 <sup>th</sup> day
\$ 500	8th through 14th day
\$ 1,500	15th through 30th day

\$ 2,500

31st day and beyond

57. In the event that EPA assumes performance of a portion or all of the Work pursuant to Paragraph 67 of Section XX, Respondent shall be liable for a stipulated penalty in the amount of \$200,000 or 25% of the cost of the Work EPA performs, whichever is less.

58. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs, and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: 1) with respect to a deficient submission under Section VIII (Work to be Performed), during the period, if any, beginning on the 1st day after EPA's receipt of such submission until the date that EPA notifies Respondent of any deficiency; and 2) with respect to an issue that Respondent chooses to seek a decision by the ECL Director or Associate Director under Section XVI (Dispute Resolution), during the period, if any, beginning on the 5th day after the Negotiation Period ends until the date that the ECL Director or Associate Director issues a final decision regarding such dispute. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Order. If EPA seeks to enforce this Order in Court, Respondent may seek judicial review of EPA's final administrative decision.

59. Following EPA's determination that Respondent has failed to comply with a requirement of this Order, EPA may give Respondent written notification of the failure and describe the noncompliance. EPA may send Respondent a written demand for payment of the penalties. Except as provided in the preceding Paragraph 58, penalties shall accrue regardless of whether EPA has notified Respondent of a violation.

60. All penalties accruing under this Section shall be due and payable to EPA within 60 days of Respondent's receipt from EPA of a demand for payment of the penalties, unless Respondent invokes the dispute resolution procedures under Section XVI (Dispute Resolution). All payments to EPA under this Section shall be paid by certified or cashier's check(s) made payable to "EPA Hazardous Substances Superfund," shall be mailed to the Lockbox number and address set forth in Paragraph 42.b, above, shall indicate that the payment is for stipulated penalties, and shall reference the EPA Region and Site/Spill ID Number 10BX, the EPA Docket Number of this Order, and the name and address of the parties making payment. Copies of check(s) paid pursuant to this Section, and any accompanying transmittal letter(s), shall be sent to EPA as provided in Paragraph 17, and to other receiving officials at EPA identified in Paragraph 42.c, above.

61. The payment of penalties shall not alter in any way Respondent's obligation to complete performance of the Work required under this Order.

62. Penalties shall continue to accrue during any dispute resolution period, except as provided in Paragraph 58 above, but need not be paid until 30 days after the dispute is resolved by agreement or by receipt of EPA's decision. No penalties shall accrue or be payable if Respondent prevails in any dispute.

63. If Respondent fails to pay stipulated penalties when due, EPA may institute proceedings to collect the penalties, as well as Interest. Respondent shall pay Interest on the unpaid balance, which shall begin to accrue on the date of demand made pursuant to this Section. Nothing in this Order shall be construed as prohibiting, altering, or in any way limiting the ability of EPA to seek any other remedies or sanctions

available by virtue of Respondent's violation of this Order or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Sections 106(b) and 122(l) of CERCLA, 42 U.S.C. §§ 9606(b) and 9622(l), and punitive damages pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3). Provided, however, that EPA shall not seek civil penalties pursuant to Section 106(b) or 122(l) of CERCLA or punitive damages pursuant to Section 107(c)(3) of CERCLA for any violation for which a stipulated penalty is provided herein, except in the case of a willful violation of this Order or in the event that EPA assumes performance of a portion or all of the Work pursuant to Section XX, Paragraph 68.

64. Notwithstanding any other provision of this Section, EPA may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Order.

#### **XIX. COVENANT NOT TO SUE BY EPA**

65. In consideration of the actions that will be performed and the payments that will be made by Respondent under the terms of this Order, and except as otherwise specifically provided in this Order, EPA covenants not to sue or to take administrative action against Respondent pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for performance of the Work and for recovery of Future Response Costs. This covenant not to sue shall take effect upon the Effective Date and is conditioned upon the complete and satisfactory performance by Respondent of all obligations under this Order, including, but not limited to, payment of Future Response Costs pursuant to Section XV. This covenant not to sue extends only to Respondent and does not extend to any other person.

## **XX. RESERVATIONS OF RIGHTS BY EPA**

66. Except as specifically provided in this Order, nothing herein shall limit the power and authority of EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Arkema Site or Portland Harbor Superfund Site. Further, nothing herein shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Order, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondent in the future to perform additional activities pursuant to CERCLA or any other applicable law.

67. The covenant not to sue set forth in Section XIX above does not pertain to any matters other than those expressly identified therein. EPA reserves, and this Order is without prejudice to, all rights against Respondent with respect to all other matters, including, but not limited to:

- a. claims based on a failure by Respondent to meet a requirement of this Order;
- b. liability for costs that are not inconsistent with the NCP and not included within the definition of Future Response Costs;
- c. liability for performance of response action other than the Work performed under this Order;
- d. criminal liability;

- e. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;
- f. liability arising from the past, present, or future disposal, release or threat of release of Waste Materials outside of the Removal Action Area; and
- g. liability for costs not inconsistent with the NCP incurred or to be incurred by the Agency for Toxic Substances and Disease Registry related to the Arkema Site or the Portland Harbor Superfund Site.

68. Work Takeover. In the event EPA determines that Respondent has ceased implementation of any portion of the Work, is seriously or repeatedly deficient or late in its performance of the Work, or is implementing the Work in a manner which may cause an endangerment to human health or the environment, EPA may assume the performance of all or any portion of the Work as EPA determines necessary. Respondent may invoke the procedures set forth in Section XVI (Dispute Resolution) to dispute EPA's determination that takeover of the Work is warranted under this Paragraph. Costs incurred by the United States in performing the Work pursuant to this Paragraph shall be considered Future Response Costs that Respondent shall pay pursuant to Section XV (Payment of Response Costs). Notwithstanding any other provision of this Order, EPA retains all authority and reserves all rights to take any and all response actions authorized by law.

#### **XXI. COVENANT NOT TO SUE BY RESPONDENT**

69. Except as specifically provided in this Order, including but not limited to, Section I., Paragraph 4 and this Section XXI., Respondent reserves all rights, claims, privileges, and defenses it may have. Respondent's failure to specifically reserve a

particular right, privilege or defense herein shall not be construed as a waiver of that right.

70. Respondent covenants not to sue and agrees not to assert any claims or causes of action against the EPA, or its contractors or employees, with respect to the Work, Future Response Costs, or this Order, including, but not limited to:

a. any direct or indirect claim for reimbursement from the Hazardous Substance Superfund established by 26 U.S.C. § 9507, based on Sections 106(b)(2), 107, 111, 112, or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612, or 9613, or any other provision of law;

b. any claim arising out of response actions at or in connection with the Work, including any claim under the United States Constitution, the Oregon State Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, as amended, or at common law; or

c. any claim against the EPA pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, relating to the Work.

71. a. Except as provided in Paragraph 81 (Waiver of Claims), these covenants not to sue shall not apply in the event the United States brings a cause of action or issues an order pursuant to the reservations set forth in Paragraphs 67(b), (c) and (e) - (g), but only to the extent that Respondent's claims arise from the same response action, response costs, or damages that the United States is seeking pursuant to the applicable reservation.

b. The Respondent reserves, and this Order is without prejudice to, claims against the United States, subject to the provisions of Chapter 171 of Title 28 of

the United States Code, for money damages for injury or loss of property or personal injury or death caused by the negligent or wrongful act or omission of any employee of the United States while acting within the scope of his office or employment under circumstances where the United States, if a private person, would be liable to the claimant in accordance with the law of the place where the act or omission occurred. However, any such claim shall not include a claim for any damages caused, in whole or in part, by the act or omission of any person, including any contractor, who is not a federal employee as that term is defined in 28 U.S.C. §2671; nor shall any such claim include a claim based on EPA's selection of response actions, or the oversight or approval of the Settling Defendants' plans or activities. The foregoing applies only to claims which are brought pursuant to any statute other than CERCLA and for which the waiver of sovereign immunity is found in a statute other than CERCLA.

72. Nothing in this Agreement shall be deemed to constitute approval or preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

## **XXII. OTHER CLAIMS**

73. By issuance of this Order, the United States and EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondent. The United States or EPA shall not be deemed a party to any contract entered into by Respondent or its directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out actions pursuant to this Order.



74. Except as expressly provided in Section XIX (Covenant Not to Sue by EPA), nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against Respondent or any person not a party to this Order, for any liability such person may have under CERCLA, other statutes, or common law, including but not limited to any claims of the United States for costs, damages and interest under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

75. No action or decision by EPA pursuant to this Order shall give rise to any right to judicial review, except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

### **XXIII. CONTRIBUTION PROTECTION**

76. The Parties agree that Respondent is entitled, as of the Effective Date, to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4), for “matters addressed” in this Order. The “matters addressed” in this Order are the Work and Future Response Costs related to the Removal Action Area only. Nothing in this Order precludes the United States or Respondent from asserting any claims, causes of action, or demands against any persons not parties to this Order for indemnification, contribution, or cost recovery.

77. Respondent agrees that with respect to any suit or claim for contribution brought by it for matters related to this Order, it will notify EPA in writing no later than 60 days prior to the initiation of such suit or claim. Respondent further agrees that with respect to any suit or claim for contribution brought against it for matters related to this Order, it will notify EPA in writing within 10 days of service of the complaint on it. In

addition, Respondent shall notify EPA within 10 days of service or receipt of any Motion for Summary Judgment and within 10 days of receipt of any order from a court setting a case for trial.

78. In any subsequent administrative or judicial proceeding initiated by the United States for injunctive relief, recovery of response costs, or other appropriate relief relating to the Removal Action Area, Respondent shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States in the subsequent proceeding were or should have been addressed in this Order; provided, however, that nothing in this Paragraph affects the enforceability of the covenants not to sue set forth in this Order.

#### **XXIV. INDEMNIFICATION**

79. Respondent shall indemnify, save and hold harmless the United States, its officials, agents, contractors, subcontractors, employees and representatives from any and all claims or causes of action arising from, or on account of, negligent or other wrongful acts or omissions of Respondent, its officers, directors, employees, agents, contractors, or subcontractors, in carrying out actions pursuant to this Order. In addition, Respondent agrees to pay the United States all costs incurred by the United States, including but not limited to attorneys fees and other expenses of litigation and settlement, arising from or on account of claims made against the United States based on negligent or other wrongful acts or omissions of Respondent, its officers, directors, employees, agents, contractors, subcontractors and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Order. The United States shall not be held out as a party to

any contract entered into by or on behalf of Respondent in carrying out activities pursuant to this Order. Neither Respondent nor any such contractor shall be considered an agent of the United States.

80. The United States shall give Respondent notice of any claim for which the United States plans to seek indemnification pursuant to this Section and shall consult with Respondent prior to settling such claim.

81. Respondent waives all claims against the United States for damages or reimbursement or for set-off of any payments made or to be made to the United States, arising from or on account of any contract, agreement, or arrangement between Respondent and any person for performance of Work on or relating to the Removal Action Area, including, but not limited to, claims on account of construction delays. In addition, Respondent shall indemnify and hold harmless the United States with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between Respondent and any person for performance of Work on or relating to the Removal Action Area, including, but not limited to, claims on account of construction delays. The waiver in this Paragraph does not apply to any potential CERCLA cost recovery or contribution claims Respondent may have against the United States for response costs incurred in performing Work under this Order.

## **XXV. INSURANCE**

82. At least 7 days prior to commencing any field work under this Order, Respondent shall secure, and shall maintain for the duration of this Order, comprehensive general liability insurance and automobile insurance with limits of 1 million dollars, per

occurrence, plusumbrella insurance in excess of the comprehensive general liability and automobile liability coverage in the amount of 4 million dollars per occurrence. Within the same time period, Respondent shall provide EPA with certificates of such insurance and a copy of each insurance policy. In addition, for the duration of the Order, Respondent shall satisfy, or shall ensure that its contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the work on behalf of Respondent in furtherance of this Order. If Respondent demonstrates by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in an equal or lesser amount, then Respondent need provide only that portion of the insurance described above which is not maintained by such contractor or subcontractor.

#### **XXVI. FINANCIAL ASSURANCE**

83. Within 30 days of the Effective Date and on the anniversary of the Effective Date every year thereafter until Notice of Completion of Work in accordance with Section XXVIII below is received from EPA, Respondent shall establish and maintain financial security for the Work under this Order. Within 30 days of the Effective Date, Respondent shall establish and maintain a surety bond in the amount of \$.07 million until the EE/CA is finalized and the Action Memorandum is issued. Within 30 days of the issuance of the Action Memorandum, Respondent shall establish and maintain financial security in the amount of the estimated cost of the removal action selected in the Action Memorandum. Financial security for the cost of the removal action under this Order shall be established in one or more of the following forms:

- a. A surety bond guaranteeing performance of the work;
- b. One or more irrevocable letters of credit equaling the total estimated cost of the work;
- c. A trust fund;
- d. A demonstration that Respondent satisfies the requirements of 40 C.F.R. Part 264.143(f).

84. If Respondent seeks to demonstrate its ability to complete the work by means of the financial test pursuant to Paragraph 83.d of this Section, it shall resubmit sworn statements conveying the information required by 40 C.F.R. 264.143(f) annually, on the anniversary of the Effective Date. In the event that EPA determines at any time that the financial assurances provided pursuant to this Section are inadequate, Respondent shall, within 30 days of receipt of notice of EPA's determination, obtain and present to EPA for approval one of the other forms of financial assurance listed in Paragraph 83 of this Section. Respondent's inability to demonstrate financial ability to complete the work shall not excuse performance of any activities required under this Order.

85. If, after the Effective Date, Respondent can show that the estimated cost to complete the remaining work has diminished below the amount set forth in Paragraph 83 of this Section, Respondent may, on any anniversary date of the Effective Date, or at any other time agreed to by the Parties, reduce the amount of the financial security provided under this Section to the estimated cost of the remaining work to be performed.

Respondent shall submit a proposal for such reduction to EPA, in accordance with the requirements of this Section, and may reduce the amount of the security upon approval

by EPA. In the event of a dispute, Respondent may reduce the amount of the security in accordance with the written decision resolving the dispute.

86. Respondent may change the form of financial assurance provided under this Section at any time, upon notice to and approval by EPA, provided that the new form of assurance meets the requirements of this Section. In the event of a dispute, Respondent may change the form of the financial assurance only in accordance with the written decision resolving the dispute.

## **XXVII. MODIFICATIONS**

87. EPA may determine that in addition to tasks defined in the SOW, or initial approved work plans, other additional work may be necessary to accomplish the objectives of the removal action. EPA may request in writing Respondent to perform these response actions and Respondent shall confirm its willingness to perform the additional work, in writing, to EPA within 14 days of receipt of EPA's request, or Respondent may invoke dispute resolution in accordance with Section XVI. Subject to EPA resolution of any dispute, Respondent shall implement the additional tasks which EPA determines are necessary. Any other requirements of this Order may be modified in writing by mutual agreement of the parties.

88. If Respondent seeks permission to deviate from any approved work plan or schedule or the Statement of Work, Respondent's Project Coordinator shall submit a written request to EPA for approval outlining the proposed modification and its basis. Respondent may not proceed with the requested deviation until receiving written approval from the EPA Project Coordinator pursuant to Paragraph 22.

by EPA. In the event of a dispute, Respondent may reduce the amount of the security in accordance with the written decision resolving the dispute.

86. Respondent may change the form of financial assurance provided under this Section at any time, upon notice to and approval by EPA, provided that the new form of assurance meets the requirements of this Section. In the event of a dispute, Respondent may change the form of the financial assurance only in accordance with the written decision resolving the dispute.

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88. If Respondent seeks permission to deviate from any approved work plan or schedule or the Statement of Work, Respondent's Project Coordinator shall submit a written request to EPA for approval outlining the proposed modification and its basis. Respondent may not proceed with the requested deviation until receiving written approval from the EPA Project Coordinator pursuant to Paragraph 22.

89. No informal advice, guidance, suggestion, or comment by the EPA Project Coordinator or other EPA representatives regarding reports, plans, specifications, schedules, or any other writing submitted by Respondent shall relieve Respondent of its obligation to obtain any formal approval required by this Order, or to comply with all requirements of this Order, unless it is formally modified.

#### **XXVIII. NOTICE OF COMPLETION OF WORK**

90. Upon the request of Respondent or on its own initiative, EPA may determine, after its review of the Final Removal Action Completion Report, that all Work has been fully performed in accordance with this Order, with the exception of any continuing obligations required by this Order, including post-removal site controls and monitoring, if any, payment of Future Response Costs, or record retention, and EPA will provide written notice to Respondent. EPA will use best efforts to respond to Respondent's request in a timely manner. If EPA determines that any such Work has not been completed in accordance with this Order, EPA will notify Respondent, provide a list of the deficiencies, and require that Respondent correct such deficiencies, or modify the Removal Action Work Plan, if necessary. Respondent shall correct the deficiencies or, if appropriate, implement the modified and approved Work Plan, and shall submit a modified Final Removal Action Completion Report in accordance with the EPA notice, subject to its right to invoke dispute under Section XVI of this Order. Failure by Respondent to implement the approved modified Work Plan shall be a violation of this Order. This Order shall be terminated if all long-term obligations and uncompleted Work required by this Order is included in a consent decree with Respondent and/or other persons and entered as a final judgment.



### **XXIX. SEVERABILITY/INTEGRATION/APPENDICES**

91. If a court issues an order that invalidates any provision of this Order or finds that Respondent has sufficient cause not to comply with one or more provisions of this Order, Respondent shall remain bound to comply with all provisions of this Order not invalidated or determined to be subject to a sufficient cause defense by the court's order.

92. This Order and its appendices and attachment constitute the final, complete and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Order. The parties acknowledge that there are no representations, agreements or understandings relating to the settlement other than those expressly contained in this Order. The following appendices are attached to and incorporated into this Order:

- a. Appendix A: Map generally depicting the upland portion of the Arkema Site and the preliminary boundaries of the Removal Action Area.
- b. Appendix B: Statement of Work
- c. Attachment 1. Tribal Cost Documentation Template

### **XXX. EFFECTIVE DATE**

93. This Order shall be effective on the day it is issued by EPA. The undersigned representative of Respondent certifies that (s)he is fully authorized to enter into the terms and conditions of this Order and to bind Respondent.

### **XXXI. NOTICES AND SUBMISSIONS**

94. Documents including work plans, reports, approvals, disapprovals, and other correspondence required to be submitted under this Order, shall be sent to the

individuals at the addresses specified below in the format indicated. All agencies and governments are responsible for giving written notice of a change to Respondent and the other parties. All notices and submissions shall be considered effective one business day after receipt by Respondent's Project Coordinator, unless otherwise provided.

- a. One (1) copy of EPA correspondence or other communications to Respondent's Project Coordinator in electronic form and hardcopy:
- b. Three (3) hardcopies of documents to be submitted to EPA shall be forwarded to:

Sean Sheldrake  
U.S. Environmental Protection Agency  
1200 Sixth Avenue, ECL-111  
Seattle, Washington 98101

Respondent shall also submit such documents in electronic form to [sheldrake.sean@epa.gov](mailto:sheldrake.sean@epa.gov) or via CD-ROM.

- c. One (1) hardcopy of documents or electronic file shall be submitted to DEQ:

James M Anderson  
DEQ Northwest Region  
2020 SW Fourth Ave, Suite 400  
Portland, Oregon 97201  
[anderson.jim@deq.state.or.us](mailto:anderson.jim@deq.state.or.us)

Electronic file or CD-ROM transmissions to the following contacts:

- d. Oregon Department of Fish & Wildlife:

Rick Kepler  
Oregon Department of Fish & Wildlife  
2501 SW First Avenue  
Portland, Oregon 97207  
[rick.j.kepler@state.or.us](mailto:rick.j.kepler@state.or.us)

- e. NOAA:

ARKEMA INC.  
ADMINISTRATIVE ORDER ON CONSENT

Rob Neely  
Coastal Resources Coordination  
c/o EPA Region 10  
1200 Sixth Avenue (MS ECL-117)  
Seattle, WA 98101  
neely.rob@epg.gov

Dr. Nancy Munn  
NOAA Fisheries  
525 NE Oregon Street, Suite 500  
Portland, Oregon 97232-2737  
nancy.munn@noaa.gov

f. USFW:

Jeremy Buck  
US Fish & Wildlife  
2600 SE 98th Avenue, Suite 100  
Portland, Oregon 97266  
jeremy\_buck@r1.fws.gov

Kemper McMaster, State Supervisor  
U.S. Fish and Wildlife Service  
Oregon Fish and Wildlife Office  
2600 SE 98th Ave., Suite 100  
Portland, Oregon 97266  
Kemper\_McMaster@fws.gov

g. U.S. Department of Interior:

Preston Sleeper  
Regional Environmental Officer  
Pacific Northwest Region  
500 NE Multnomah St., Suite 356  
Portland, Oregon 97232

**Personal Privacy / Ex. 6**

h. Confederated Tribes of the Warm Springs Reservation of Oregon:

Brian Cunninghame  
5520 Skyline Drive  
Hood River, Oregon 97031

**Personal Privacy / Ex. 6**

i. Confederated Tribes and Bands of the Yakama Nation:

Paul Ward  
Yakama Nation  
Fisheries Management Program  
P.O. Box 151  
4690 SR 22  
Toppenish, Washington 98948  
[pward@yakama.com](mailto:pward@yakama.com)

j. Confederated Tribes of the Grand Ronde Community of Oregon:

Pete Wakeland  
Confederated Tribes of the  
Grand Ronde Community of Oregon  
47010 SW Hebo Road  
Grand Ronde, Oregon 97347  
[pete.wakeland@grandronde.org](mailto:pete.wakeland@grandronde.org)

k. Confederated Tribes of the Siletz Indians:

Tom Downey  
Environmental Specialist  
Confederated Tribes of the Siletz Indians  
P.O. Box 549  
Siletz, Oregon 97380  
[tomd@ctsi.nsn.us](mailto:tomd@ctsi.nsn.us)

l. Confederated Tribes of the Umatilla Indian Reservation:

Audie Huber  
Confederated Tribes of the Umatilla Indian Reservation  
Department of Natural Resources  
73239 Confederated Way  
Pendleton, Oregon 97801  
[audiehuber@ctuir.com](mailto:audiehuber@ctuir.com)

m. Nez Perce Tribe:

Joe Oatman  
Nez Perce Tribe  
P.O. Box 365  
Lapwai, Idaho 83540  
[joeo@nezperce.org](mailto:joeo@nezperce.org)

n. Environment International Ltd.:

Jean Lee, PE  
Environment International Ltd.  
5505 34<sup>th</sup> Avenue, N.E.  
Seattle, Washington 98105  
[Jean.lee@envintl.com](mailto:Jean.lee@envintl.com)

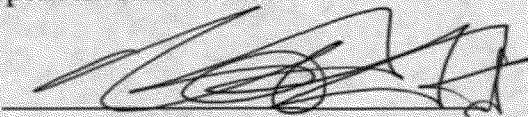
**XXXI. ADMINISTRATIVE RECORD AND PUBLIC COMMENT**

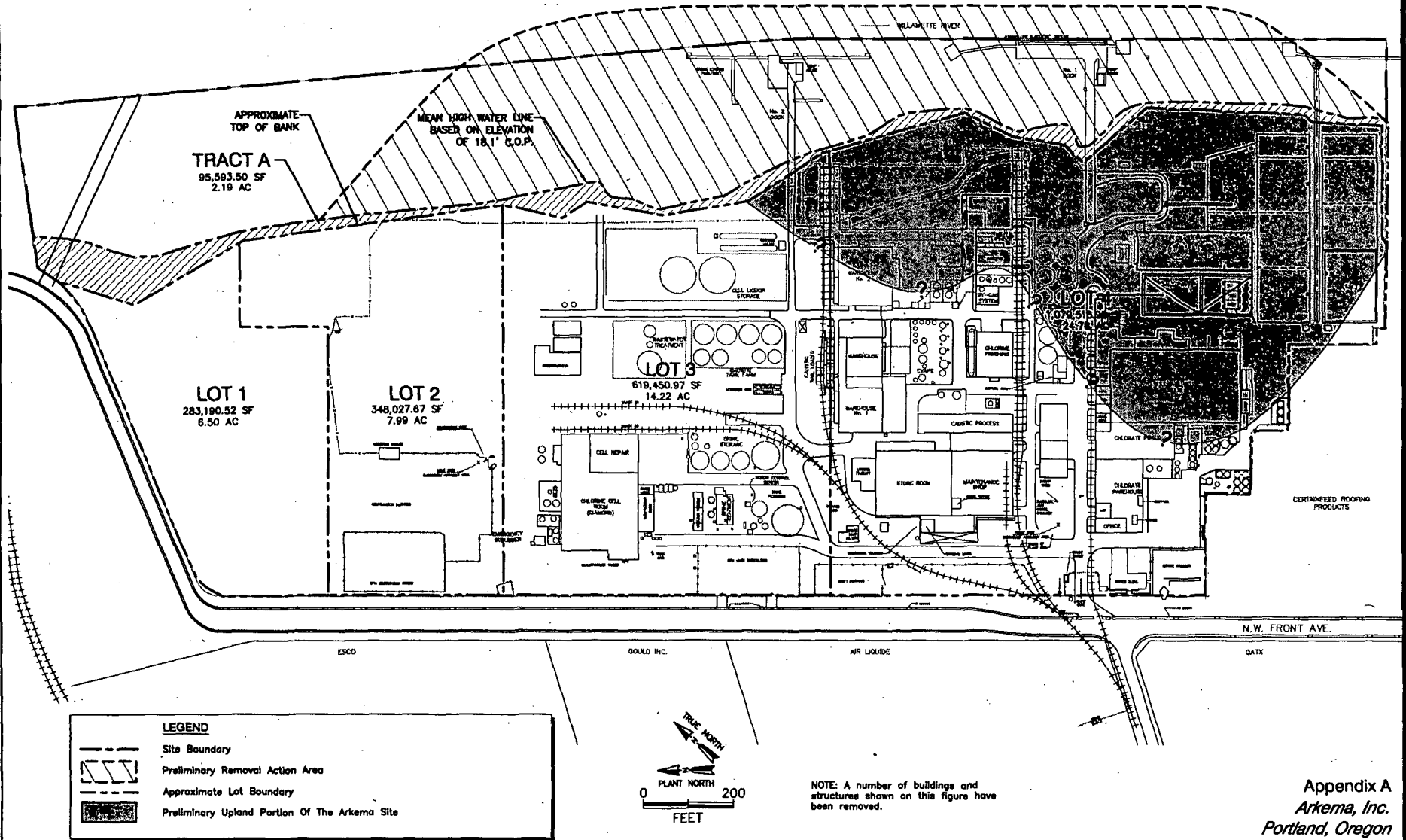
95. EPA will determine the contents of the administrative record file for selection of the removal action. In accordance with this Order and the SOW, Respondent shall submit to EPA documents developed during the course of the EE/CA upon which selection of the response action may be based. Respondent shall assist EPA, as requested, before and during the comment period with its community relations activities concerning the EE/CA. At EPA's request, Respondent shall establish a community information repository to house one copy of the administrative record. In accordance with 40 CFR §§ 300.415(m)(4) and 300.820, EPA will provide a public comment period of not less than 30 days on the EE/CA and the proposed removal action. After considering public comments received, and reviewing additional data or analyses required to complete the EE/CA, if necessary, EPA will select a final removal action.

By: Sylvia Kawabata  
It is so ORDERED and Agreed this 27<sup>th</sup> day of June, 2005.  
Sylvia Kawabata  
ECL Unit Manager  
U.S. EPA, Region 10

Agreed this 16<sup>th</sup> day of June, 2005.

For Respondent Arkema Inc.

By:   
Gerard Robert  
Printed Name  
Senior Vice President Manufacturing and Regulatory Services  
Title



Appendix A  
Arkema, Inc.  
Portland, Oregon

## **APPENDIX B**

### **STATEMENT OF WORK**

#### **ARKEMA REMOVAL ACTION PORTLAND HARBOR SUPERFUND SITE PORTLAND, OREGON**

##### **I. PURPOSE**

The primary purposes of this Statement of Work (SOW) are: (1) to implement the Administrative Order on Consent for Removal Action (AOC); (2) facilitate and expedite the feasibility study and implementation of controls on upland sources to the Willamette River; and (3) expedite the characterization, feasibility study, cleanup alternatives analysis, and performance of cleanup on the principal threat in the intertidal area and submerged lands on and adjacent to the Arkema Site.

The removal action will identify the areal extent of the project, which will become the Arkema Removal Action Area (RAA). Beyond the RAA, the removal action will not address all contamination and releases of hazardous substances from the Arkema Site that may be posing unacceptable risks to human health and the environment. The river-wide Portland Harbor Superfund Site cleanup will address releases of hazardous substances from the Arkema Site beyond the RAA.

Removal Action Objectives shall include, at a minimum:

1. Reduce human health risks to acceptable levels from direct contact with and incidental ingestion of chemicals of concern (COCs) in sediments and riverbank within the RAA.
2. Reduce COC concentrations in sediments and riverbank within the RAA to levels that will result in acceptable risks to humans that eat fish and shellfish from the Willamette River.
3. Reduce human health risks to acceptable levels from direct contact with and incidental ingestion of water with COCs within the RAA.
4. Reduce ecological risks from contact with and ingestion of COCs in sediments or riverbank material or prey within the RAA to acceptable levels.
5. Reduce ecological risks to acceptable levels from contact with and ingestion of water with COCs within the RAA.
6. Eliminate the potential for migration of contaminants at unacceptable levels from the RAA to the Willamette River.
7. Reduce contaminant flux from uplands, riverbank, and sediments so that recontamination of any sediment or riverbank caps put in place does not occur.

The Work to be completed under this SOW shall include preparation, delivery, and implementation of the following:

1. Engineering Evaluation/Cost Analysis (EE/CA) Work Plan (draft and final);



2. Removal Action Area Characterization Report(s) (draft and final);
3. Engineering Evaluation/Cost Analysis (EE/CA) Report (draft and final);
4. Biological Assessment (BA) and Clean Water Act (CWA) (Section 404) Analysis Memorandum;
5. Removal Action Design Documents (conceptual, pre-final and final);
6. Removal Action Work Plan (draft and final);
7. Implementation of Removal Action;
8. Removal Action Completion Report (draft and final);
9. Long-Term Monitoring and Reporting Plan (if appropriate); and
10. Community Involvement Activities

Removal activities shall be completed in accordance with Table 1 of this SOW.

The Respondent will coordinate meetings and/or teleconferences with EPA, DEQ, the Tribes, and the Natural Resource Trustees to discuss the status of work described in this SOW. After approval of the EE/CA Work Plan, such meetings shall be monthly, if needed. DEQ, the Tribes and the Trustees will submit their comments to EPA. EPA will provide the comments to Respondent that Respondent is to address. Respondent will coordinate quarterly meetings with EPA and DEQ and/or written updates will be provided in place of a meeting regarding upland source control actions on the Arkema Site.

## **II. WORK TO BE PERFORMED BY RESPONDENT**

Deliverables specified in this SOW shall be consistent with "EPA's Guidance on Conducting Non-Time-Critical Removal Actions under CERCLA" (EPA/540/R-93/057, OSWER 9360.0-32). Work to be completed under this SOW shall also include activities necessary to achieve the objectives, criteria and performance standards contained in this SOW, or any work plan, report, or other deliverable approved under the AOC and this SOW. Work to be completed under this SOW shall, to the extent practicable, be consistent with the Portland Harbor Superfund Site RI/FS, and contribute to the efficient performance of the long-term remedial action.

Respondent shall complete the following tasks:

### **1. Engineering Evaluation/Cost Analysis (EE/CA) Work Plan**

Respondent shall submit an EE/CA Work Plan that will include a summary of existing information, a project work plan, a Sampling and Analysis Plan (SAP) and a Health and Safety Plan (HASP).

The EE/CA Work Plan shall include, at a minimum, the following information:

- Introduction/Purpose;



- Brief description of the Arkema Removal Action Area characteristics, including ecological and physical characteristics;
- Identification of historic and ongoing sources of contamination to the Arkema Removal Action Area, including past and present operations, drainage, discharges, groundwater seeps, or other releases;
- Summary of existing information on upstream and upland contamination sources that have the potential to contaminate the Removal Action Area, including a description of environmental investigations, environmental cleanups and planned upland source control measures that are being conducted under agreements with DEQ as the lead agency. The summary of upland source control measures being conducted must contain a schedule for implementation to be completed prior to the EE/CA;
- Arkema historical information including dredging history and identification of past and present property owners, operators, and major tenants as well as owners and operators of all immediately adjacent upland properties;
- Summary of current facility operations and potential access or operational constraints on Work Plan implementation;
- Description of the nature and extent of contamination in the Arkema Removal Action Area, to the extent known, including a summary of existing sediment quality data with a comparison to:
  - 1) Existing ecological sediment quality guidelines that represent a range of levels including, but not limited to, low or no effects (e.g., Threshold Effects Concentrations [TECs], Threshold Effects Levels [TELs], Effects Range Low [ERLs]), as well as levels at which some effects are expected (e.g., Probable Effects Concentrations [PECs], Effects Range Medium [ERMs]). Existing chemistry data will be reviewed to establish Category 1 and Category 2 data categories in accordance with the Portland Harbor RI/FS protocols;
  - 2) Estimated risk-based sediment cleanup values for persistent bioaccumulative toxins (PBTs) that protective of humans and wildlife that consume aquatic biota from the Willamette River; and
  - 3) Sediment cleanup values that are protective of humans from direct contact with, and incidental ingestion of, chemicals of concern in sediments, riverbank and water. Existing sediment data should be plotted on site maps. Locations with sediment concentrations above the risk based levels in (1), (2), and (3) above should be indicated on these maps.
- Summary of results from sediment toxicity testing conducted to date;
- A process for developing a cultural resources survey, and a process for developing procedures to protect and address such cultural resources;

- Identification of Removal Action Objectives (RAOs), potential Applicable or Relevant and Appropriate Requirements (ARARs), and To Be Considered (TBCs) for the Arkema Removal Action Area;
- A description of the analysis to be conducted to determine disposal facility or containment options for contaminated sediment;
- A detailed conceptual site model that shows the relationship of the contaminant plumes including, but not limited to: pH variations, hexavalent chrome, perchlorate, monochlorobenzene, DDT, and salinity gradients, starting in the uplands and continuing through the riverbank, and into sediment in the river, to the full extent of the data available at the time of submittal; and
- Other information (including maps and figures) necessary to gain a general understanding of the Arkema Removal Action Area.

Respondent shall also identify data gaps that will be filled by the collection and analysis of field data. Investigation activities will focus on problem definition and will result in data of adequate quality and technical content to evaluate the following:

- Nature, extent, and volume of riverbank and sediment contamination including the degree to which riverbank and sediments will need to be removed that represent the principal threat of contamination, an ongoing source of contaminants to the river, and which may represent a recontamination risk to any cap put in place;
- Potential human health and ecological risks resulting from sediment and surface water contamination;
- Engineering characteristics of the Removal Action Area including sediment consistency, dredgeability, potential slope stability issues related to dredging, and potential sediment consolidation issues associated with capping;
- Potential water quality effects associated with dredging, piling removal, sheet pile installation, capping, or disposal technologies;
- Technologies for sediment remediation including capping, dredging, treatment, including any necessary treatability testing, and disposal (on-site and off-site);
- If necessary, assessment of hydraulic control measures, including a sheet pile wall keyed into bedrock across the site, should they be necessary to reduce the recontamination risk to the in-water work (riverbank and sediment cleanup); and
- Potential impacts to threatened or endangered species, other biological receptors, and the potential habitat benefits and impacts of the removal action.

The procedures Respondent plans to implement when conducting all field activities will be detailed in the SAP for the specific field activity. The initial SAP will be included in the EE/CA Work Plan. The SAP for any field activity will ensure that sample collection and analytical activities are conducted in accordance with technically acceptable protocols and that data meet data quality objectives. A SAP provides a mechanism for planning field activities and consists of a Field Sampling Plan (FSP) and a Quality Assurance Project Plan (QAPP). Details are provided in Section III of this SOW.

Respondent shall also prepare HASP that is designed to protect personnel from physical, chemical and other hazards posed by field sampling efforts. Details are set forth in Section III of this SOW.

Upon request by EPA, Respondent shall also submit copies of previous studies or sampling efforts conducted independently or under local, state or other federal authorities or agreements that are determined by EPA to relate to remedy selection under this Order.

Additionally, Respondent shall continue to work under DEQ supervision on upland source control actions related to the Arkema Site and that are threatening to be released to the Willamette River, which may include source identification, source prioritization, documentation and tracking of source control plans and completed source control actions, evaluating and documenting effectiveness of source control measures, and providing input to EPA's and DEQ's decision as to effectiveness of source control in order to implement the Removal Action. The goal is for significant upland sources to be controlled to the greatest extent practicable before or during Removal Action implementation such that significant post Removal Action recontamination is not predicted. The EE/CA work plan shall contain a process and schedule for evaluation of the upland source control program. As a result of the evaluation, should it be determined that sources are not being controlled sufficiently to achieve the RAOs, this SOW requires, upon notice by EPA, Arkema to conduct evaluation of hydraulic control measures in the EE/CA, including, but not limited to, installation of a sheet pile wall, such that this Removal Action may occur without the expectation of recontamination. A schedule for such evaluation will be included in the EE/CA work plan.

## **2. Removal Action Area Characterization Report**

Respondent shall submit a Removal Action Area Characterization Report that includes information from field sampling events, including validated analytical results.

The Removal Action Area Characterization Report shall include, at a minimum, the following sections:

- Introduction/Purpose;
- Summary of the field sampling effort that, at a minimum, includes sampling vessel information, field effort dates, a summary of the sample collection effort (e.g., surface sediment, subsurface sediment, and surface water samples), field sample observations

(e.g., sediment descriptions), and a summary of sample and station locations – including station depths (corrected to mean lower low water), station locations (latitudes/longitudes and state plane coordinates), maps and figures;

- Deviations from the FSP;
- Summary of sample handling and shipment; and
- Summary of all data, including a data validation report. Data from this effort shall be provided electronically in a format consistent with other data already acquired under the harbor-wide study.
- Description of the nature and extent of contamination in the Arkema Removal Action Area including a summary of existing and newly collected surface and subsurface sediment quality data with a comparison to:
  - a. Existing ecological sediment quality guidelines that represent a range of levels including, but not limited to, low or no effects (e.g., Threshold Effects Concentrations [TECs], Threshold Effects Levels [TELs], Effects Range Low [ERLs]), as well as levels at which some effects are expected (e.g., Probable Effects Concentrations [PECs], Effects Range Medium [ERMs]). Existing chemistry data will be reviewed to establish Category 1 and Category 2 data categories in accordance with the Portland Harbor RI/FS protocols;
  - b. Estimated risk-based sediment cleanup values for persistent bioaccumulative toxins (PBTs) that protective of humans and wildlife that consume aquatic biota from the Willamette and
  - c. Sediment cleanup values that are protective of humans from direct contact with, and incidental ingestion of, chemicals of concern in sediments, riverbank and water.

Existing sediment data should be plotted on site maps. Locations with sediment concentrations above the risk based levels in (1), (2), and (3) above should be indicated on these maps.

Respondent shall submit the data validation report to EPA within 5 days of Respondent's receipt of the data validation report from their contractor or in-house source. Information necessary for EPA to perform an independent review of the validated data shall also be provided.

### **3. Engineering Evaluation/Cost Analysis (EE/CA) Report**

Based on data obtained in the previous sampling efforts and work to be performed under this SOW, and in consideration of EPA's guidance for this removal actions<sup>1</sup>, Respondent

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<sup>1</sup> Including, but not limited to: "Institutional Controls: A Site Manager's Guide to Identifying, Evaluating and Selecting Institutional Controls at Superfund and RCRA Corrective Action Cleanups," (EPA 540-F-00-

will prepare a technical briefing for EPA, DEQ, the Tribes and the Trustees on the proposed removal alternatives that will be presented by Respondent in the EE/CA.

After the technical briefing, Respondent, in consideration of comments received at the technical briefing, will submit a first draft of the EE/CA.

The first draft EE/CA will be revised in response to EPA comments. A second draft EE/CA shall be submitted to EPA for review and comment, or modification if requested by EPA. If requested by EPA, a final version of the EE/CA shall be submitted to EPA for review and preliminary approval in accordance with the schedule set forth in Table 1 of this SOW. Upon preliminary approval of the EE/CA by EPA, the EE/CA will be released for a formal public comment period. The EE/CA will contain the following sections:

- Executive Summary;
- Introduction;
- Removal Action Area Characterization;
- The result of the analysis regarding the post Removal Action recontamination potential of the Arkema Removal Action Area by (1) in water contaminated sediments outside of the RAA and (2) upland sources of contamination, including whether source control actions will be sufficient or if additional actions may be required to control potential sources of significant recontamination;
- Procedures for addressing and protecting cultural resources in the Removal Action Area;
- Identification of Removal Action Objectives;
- Identification and Analysis of Removal Action Technologies;
- Identification and Analysis of Removal Action Alternatives, including the identification and analysis of disposal facility or containment options and incorporating the costs of any Removal Action and the alternative analysis for any proposed institutional controls, if applicable;
- Comparative Analysis of Removal Action Alternatives, including upland hydraulic control alternatives, if necessary;
- Recommended Removal Action Alternative, including the selection of any needed disposal facility;
- An assessment of the residual risk anticipated after Removal Action implementation;
- Schedule for recommended Removal Action; and
- Preliminary drafts of the Biological Assessment and Clean Water Act analysis memorandum for the recommended Removal Action alternative (see Section 4 below).

A public comment period of at least thirty (30) days is required for the EE/CA and any supporting documentation. Respondent shall assist EPA, as requested, before and during the comment period with its community relations activities concerning the EE/CA.

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005), OSWER Dir. 9355.0-74FS-P, Sept. 2000; all guidances referenced in the AOC; or CERCLA guidances otherwise appropriate for the removal action alternatives being considered.

Respondent shall also assist EPA in compiling the Administrative Record before and during the public comment period. If, based on public comments received, EPA determines additional data or analyses are required to complete the EE/CA, Respondent shall collect such data, or perform such analyses, as determined necessary by EPA.

#### **4. Biological Assessment (BA) and Clean Water Act (CWA) (Section 404) Analysis Memorandum**

In order to identify the presence of threatened, endangered, proposed or candidate species, or their habitat, within the vicinity of the proposed Arkema Removal Action Area, Respondent will prepare, for EPA approval, a draft BA to support compliance with the substantive requirements of the Endangered Species Act. The draft BA will characterize baseline conditions of existing habitat; address potential project impacts that the Removal Action may have on these species, their habitat, and their food stocks; and describe best management practices and conservation measures designed to avoid or minimize any negative impacts.

If dredging, capping, or other filling is a component of any of the alternatives, Respondent shall submit a draft memorandum that provides sufficient information to demonstrate compliance with the substantive requirements of Section 404(b) (1) of the CWA. The memorandum shall document the information gathered regarding practicability and cost, long- and short-term impacts from all proposed alternatives, minimization of adverse effects, and an analysis of the need for any mitigation.

#### **5. Project Design Documents**

After EPA has selected a removal action for the Removal Action Area and set forth its determination and selected action in an Arkema Removal Action Memorandum, Respondent shall prepare project design documents, including construction plans and specifications, to implement the Removal Action and shall demonstrate that the Removal Action design shall meet all objectives of any Action Memorandum or other EPA decision document. Respondent shall meet regularly with EPA prior to and during development of design documents and provide EPA, for review and approval, the key technical documents that support the removal design (see below). Design documents, including plans and specifications, shall be submitted in accordance with the schedule set forth in Table 1 of this SOW.

##### **5.1 Conceptual, Prefinal, and Final Designs**

Respondent shall submit the following levels of design:

- Conceptual design when the design effort is 30 percent complete;
- Prefinal design when the design effort is 90 percent complete;
- Final design when the design effort is 100 percent complete.

The final design shall fully address all EPA comments made on the prefinal design.

**5.1.1 Conceptual (30 percent) Design** shall include an overall explanation of the following as appropriate:

- If the selected alternative includes capping, the conceptual design will show capping areas and conceptual slope and cap designs;
- If the selected alternative includes dredging, the conceptual design will show dredging areas and conceptual cut thicknesses and slope angles;
- Proposed disposal technology (on-site or off-site) conceptual design including general disposal location, handling methods and transport approaches;
- Annotated outline of prefinal design analysis report;
- Annotated outline of plan drawings;
- Annotated outline of specifications.

**5.1.2 Prefinal (90 percent) Design** shall include three separate deliverables as follows:

- Prefinal (90 percent) Design Analysis Report;
- Prefinal (90 percent) Construction Documents and Schedule;
- Prefinal (90 percent) Design Plans.

**5.1.2.1 Prefinal (90 percent) Design Analysis Report** shall provide the design criteria and the basis of design for the Removal Action. Examples of the types of information to be included are described below:

- Technical parameters and supporting calculations upon which the design will be based, including but not limited to design requirements for each remedial action technology to be employed (e.g., dredging, capping);
- If the selected alternative includes capping:
  - appropriate physical and chemical characteristics of materials to be used for sediment capping and method for identifying and testing clean source material, including acceptance criteria for such material;
  - determinations regarding potential propeller scour for capped areas;
  - cap placement techniques;
- If the selected alternative includes dredging and/or excavation:
  - Identification of requirements for the contractor regarding the handling, transport (including haul routes) and disposal of dredged or excavated sediments, including identification of any best management practices, monitoring, and/or analyses necessary to protect personnel from potential chemical hazards posed by this Removal Action (such activities may be further described in the contractor's HASP);

- design dredge or excavation depths and overcut allowances, dredged or excavated material volumes, and dredging or excavation techniques;
  - identification of potential location(s) for disposal of dredged or excavated sediments;
  - if the proposed disposal technology is an off-site upland landfill, the design documents will include descriptions of sediment transloading (from water transport to land transport), stockpiling, dewatering, and overland transport;
  - if the proposed disposal technology is an on-site near shore Confined Disposal Facility (CDF), the design documents will include fill closure approach, hydrogeologic and contaminant transport evaluation for the fill, static and seismic stability analyses, filling approach, consolidation analysis, and screening of other potential sources of material for the CDF;
- Descriptions of the analyses conducted to select the design approach, including a summary and detailed justification of design assumptions and verification that design will meet performance standards;
  - Access and easement requirements, and permit requirements or substantive requirements of permits;
  - Plan for reducing negative effects on the environment and community during the construction phase(s);
  - An outline of the long-term monitoring and reporting plan; and
  - Analysis and recommendations on institutional controls and/or engineering controls that may need to be implemented to ensure the long-term effectiveness of the Removal Action, including descriptions of how such controls would be implemented, by whom, and under what circumstances such controls could be removed or terminated (see "Institutional Controls" OSWER 9355.0-74FS-P, EPA 540-F-00-005, September 2000).
  - If appropriate, conduct an update of the analysis regarding post Removal Action recontamination of the Arkema Removal Action Area by upland sources of contamination, including what source control actions have occurred since the EE/CA analysis and whether additional actions may be necessary to control potential sources of significant recontamination.

If the selected alternative includes capping, the cap design shall follow appropriate EPA guidance, including "Guidance for In-Situ Subaqueous Capping of Contaminated Sediments" (EPA 905-B96-004). Performance of capping activities shall be consistent



with federal regulations, including the requirements of Sections 401 and 404 of the CWA and Section 10 of the Rivers and Harbors Act.

If the selected alternative includes dredging, the performance standards shall be consistent with federal regulations, including requirements of Sections 404 and 401 of the CWA and Section 10 of the Rivers and Harbors Act.

**5.1.2.2 Prefinal (90 percent) Construction Documents and Schedule**, including:

- Construction plans/drawings/sketches and required specifications;
- Proposed locations of processes/construction activity or specific requirements for such locations;
- Schedule for construction and implementation of the Removal Action that identifies major milestones.

**5.1.2.3 Prefinal (90 percent) Design Plans**, including:

- Draft Construction Quality Assurance Plan (see Section III of this SOW) which shall detail the remediation verification method and approach to quality assurance during construction activities in the project area, including compliance with ARARs. The Plan will describe the methods used to measure compliance with measurement quality objectives (such as performance and method requirements), including target dredge or excavation depths, if appropriate. The Plan will include, as an attachment, a Draft Removal Action Sampling and Analysis Plan (see Section III of this SOW), which shall include a field sampling plan and a QAPP. If the selected alternative includes capping, performance monitoring will include characterization of in-place capping materials (e.g., coverage and thickness). If the selected alternative includes dredging or excavation, performance monitoring will be performed to confirm that dredged or excavated material is properly staged, dewatered, and transported to a suitable disposal site; and that field construction activities are properly sequenced.
- Draft Water Quality Monitoring Plan and its associated Quality Assurance Project Plan and HASP (see Section III of this SOW), which shall detail water quality monitoring to confirm that water quality standards as defined by substantive requirements of CWA Section 401 water quality certification for compliance with the requirements in CWA Section 404(b)(1) guidelines are met (or ensure approval to allow temporary exceedances of water quality standards has been received) during any capping and dredging operations and where return-water from barges or dewatering (as appropriate) may affect the water column. The plan shall describe the specific water quality monitoring requirements, including a schedule; sampling locations; sampling intervals; sampling equipment and parameters; analytical methods; key contacts; reporting requirements (including daily reports); daily contacts for notifications of any exceedances; result summaries; and draft and final

Water Quality Monitoring reports. A QAPP and a HASP specific to water quality monitoring shall be included in this deliverable.

### **5.1.3 Final (100 percent) Design:**

The 100 percent Final Design submittal shall include the following:

- Final Design Analysis Report;
- Final construction documents and schedule;
- Final Design Plans;
- Operation, Maintenance, and Monitoring Plan;
- Final cost estimate for the Removal Action and estimated cost for long-term monitoring; and
- Final schedule.

## **6. Removal Action Work Plan**

Respondent shall prepare a Removal Action Work Plan that outlines the implementation of the selected Removal Action alternative, including how construction activities are to be implemented by Respondent and coordinated with EPA. The Work Plan shall include, at a minimum, the following elements that are consistent with and implements the approved final design:

- Removal action project plan describing the sequence of activities;
- A description of how the removal action implements the final design;
- Schedule of activities for completion of the Removal Action, including inspections, meetings, and documents referenced in this task;
- Remedial action HASP that is designed to protect personnel from physical, chemical and other potential hazards posed by this Removal Action;
- Construction quality assurance plan (CQAP) and statement of qualifications (for the construction contractor). The CQAP will describe in detail the methods for direct measurements to be made during construction to ensure RAOs and performance standards will be met;
- Remedial action environmental protection plan;
- Procedures for processing design changes and securing EPA review and approval of such changes to ensure changes are consistent with the objectives of this Removal Action;
- Procedures for coordinating with EPA regarding compliance with EPA's Off-Site Rule, as applicable.

The HASP shall follow EPA guidance and all OSHA requirements as outlined in 29 C.F.R. 1910 and 1926. Respondent may utilize existing HASP project documents or other company/contractor HASPs provided that Respondent demonstrates the HASP has been modified, as necessary, or otherwise sufficiently addresses the activities covered by this SOW. Draft and Final versions of the Removal Action Work Plan shall be submitted to EPA for review and approval in accordance with the schedule set forth in Table 1 of this SOW.

## **7. Implementation of Removal Action**

As described in Table 1, Respondent shall provide notification to EPA thirty (30) days prior to initiation of fieldwork to allow EPA to coordinate field oversight activities.

Respondent shall complete the sediment Removal Action in accordance with the approved Final Design documents and Removal Action Work Plan. The following activities shall be completed in constructing the Removal Action.

EPA and Respondent shall participate in a preconstruction meeting to:

- Review methods for documenting and reporting data, and compliance with specifications and plans including methods for processing design changes and securing EPA review and approval of such changes as necessary;
- Review methods for distributing and storing documents and reports;
- Review work area security and safety protocols, as appropriate;
- Demonstrate that construction management is in place, and discuss any appropriate modifications of the CQAP to ensure that project specific considerations are addressed;
- Discuss methods for direct measurement, including confirmation sampling of construction work to be used to ensure performance standards are met;
- If requested, conduct a Removal Action Area tour in the project area to verify that the design criteria, plans, and specifications are understood and to review material and equipment storage locations, as appropriate.
- If appropriate, conduct an update of the analysis regarding post Removal Action recontamination of the Arkema Removal Action Area by upland or upstream sources of contamination, including what source control actions have occurred since the EE/CA analysis, whether additional actions and/or schedule delays may be necessary to control potential sources of significant recontamination.

Respondent shall transmit (electronically) draft key points and action items of the preconstruction meeting to all parties identified in Section XXX of the AOC within seven (7) days of the meeting. Respondent shall submit final key points and action items of the preconstruction meeting to all parties identified in Section XXX of the AOC within fourteen (14) days of the meeting.

Pursuant to the CQAP, monthly reports shall be prepared and submitted (electronically) to EPA for review during the Removal Action. Monthly reports shall include work performed, problems encountered and solutions proposed, water quality monitoring results, and work to be performed during the following week. If applicable, Respondent shall inform EPA of the off-site disposal facility proposed to receive any debris or dredged/excavated materials from the Arkema Removal Action Area.

Within seven (7) days after Respondent makes a preliminary determination that construction is complete, Respondent shall orally notify EPA for the purposes of scheduling a final inspection and/or meeting. Within fourteen (14) days after the final inspection and/or meeting, Respondent shall send a letter to EPA stating that construction is complete and responding to any outstanding issues that were raised by EPA during the final inspection/meeting.

#### **8. Removal Action Completion Report**

Within 90 days after completion of the construction phase of the Removal Action, Respondent shall submit for EPA review and approval a Removal Action Completion Report. This report shall contain a description of the Work described in the Removal Action Work Plan and the Work that was actually performed. In the report, a registered professional engineer and Respondent shall state that the Removal Action has been constructed in accordance with the design and specifications. The report shall provide as-built drawings, signed and stamped by a professional engineer, showing the area and depth of the location remediated. The final report shall include a listing of quantities and types of materials removed off-site or handled on-site; a listing of the ultimate destination(s) of those materials, a presentation of the analytical results of all sampling and analyses performed (including a map showing the locations of any confirmatory samples), and accompanying appendices containing all relevant documentation generated during the Removal Action (e.g., manifests and permits). All analytical data collected under this AOC shall be provided electronically to EPA. The final Water Quality Monitoring report may be submitted as an appendix to the Removal Action Completion Report. This Removal Action Completion Report shall contain a description of any institutional controls that are in place, or engineering controls that are necessary to sustain the integrity of the Removal Action, along with copies of any agreements or other documents used to establish and implement such controls.

The final report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

"Under penalty of perjury under the laws of the United States, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

## **9. Long-Term Monitoring and Reporting Plan**

If identified as a component of the selected alternative, Respondent shall prepare a Long-Term Monitoring and Reporting Plan for the Arkema Removal Action Area. The Long-Term Monitoring and Reporting Plan shall include inspections and analyses to monitor the Removal Action implemented at the Arkema Removal Action Area, including the institutional controls contained in the Action Memorandum.

If required, the Long-Term Monitoring and Reporting Plan shall describe monitoring objectives, an overview of the monitoring approach, design of the monitoring program (e.g., sampling strategy, station locations and replication, field sampling methods, laboratory methods), data analysis and interpretation, reporting requirements, and a schedule. The Plan shall include, as appropriate, visual inspection, bathymetric survey, sediment deposition monitoring, chemical monitoring, and sediment samples in capped areas and non-capped areas (including excavated areas) to monitor for recontamination. Data from long-term monitoring shall be assembled into reports and submitted to EPA in accordance with the schedule set forth in the Long-Term Monitoring and Reporting Plan. Based on long-term monitoring results, EPA shall determine if future response actions are needed to achieve the cleanup objectives.

## **10. Community Involvement Activities**

If requested by EPA, Respondent shall provide information supporting EPA's community involvement programs related to the Work performed pursuant to this Order, and shall participate in public meetings which may be held or sponsored by EPA to explain activities at the Removal Action Area or concerning Work performed pursuant to this Order. EPA will coordinate its community outreach efforts with DEQ.

# **III. CONTENT OF SUPPORTING PLANS**

## **1. Sampling and Analysis Plan**

Respondent shall develop a project-specific SAP, or if multiple rounds of sampling are to occur, a field sampling round-specific SAP, comprising an FSP and a project-specific or field sampling round-specific QAPP for sample analysis and data handling for samples collected at the Removal Action Area. The SAP shall be based upon the AOC, SOW and EPA guidance.

The FSP will define in detail the sampling and data-gathering methods that will be used on the project. It will include sampling objectives, a detailed description of sampling activities, sample locations, sample analysis, sampling equipment and procedures, sampling schedule, station positioning, and sample handling (e.g., sample containers and labels, sample preservation). The SAP will be prepared in accordance with "Methods for Collection, Storage and Manipulation of Sediments for Chemical and Toxicological Analyses: Technical Manual" (EPA/823/B-01-002, October 2001) or the most current version or updated guidance. The content of the SAP shall include the type of information described in EPA's Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA (EPA/540/G-89-004).

The QAPP will describe the quality assurance and quality control protocols necessary to achieve required data quality objectives. Respondent shall follow, as appropriate, "Quality Assurance/Quality Control Guidance for Removal Activities: Sampling QA/QC Plan and Data Validation Procedures" (OSWER Directive No. 9360.4-01, April 1, 1990), or the most current version, as guidance for QA/QC and sampling. Respondent shall only use laboratories that have a documented Quality System that complies with ANSI/ASQC E-4 1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1995). A Quality Assurance Project Plan shall be prepared for each sample collection activity in accordance with: (1) "EPA Requirements for Quality Management Plans (QA/R5) (2001)" or the most current version; (2) for data validation "Guidance on Environmental Data Verification and Validation, EPA QA/G8 (2002)", or the most current version; and (3) the EPA Functional Guidelines for Data Review. The QAPP will address sampling procedures, sample custody, analytical procedures, and data reduction, validation, reporting, and personnel qualifications. The laboratory performing the work must have and follow an approved Quality Assurance (QA) program, which complies with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B-01-002, March 2001) or equivalent documentation as determined by EPA. If a laboratory not in the EPA Contract Laboratory Program (CLP) is selected, the QAPP shall be consistent with the requirements of the CLP for laboratories proposed outside the CLP. Respondent will provide assurances that EPA has access to laboratory personnel, equipment and records for sample collection, transportation, and analysis at reasonable times and upon reasonable notice by EPA.

All sampling and analyses performed pursuant to this Order shall conform to EPA direction, approval, and guidance regarding sampling, quality assurance/quality control (QA/QC), data validation, and chain-of-custody procedures. Respondent shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with the appropriate EPA guidance.

Upon request by EPA, Respondent shall have such a laboratory analyze samples submitted by EPA for quality-assurance monitoring. Respondent agrees that EPA personnel may audit any laboratory that performs analytical work under this SOW. Prior to awarding any work to an analytical laboratory, Respondent will inform the laboratory

that an audit may be performed, and that the laboratory agrees to coordinate with EPA prior to performing analyses.

Respondent shall provide to EPA the quality assurance/quality control procedures followed by all sampling teams and laboratories performing data collection and/or analysis. Upon request by EPA, Respondent shall allow EPA or its authorized representatives to take split and/or duplicate samples. Respondent shall notify EPA not less than 14 days in advance of any sample collection activity, unless shorter notice is agreed to by EPA. EPA shall have the right to take any additional samples that EPA deems necessary. EPA shall use its best efforts to notify Respondent not less than 14 days in advance of any sample collection activity EPA conducts and allow Respondent to take split or duplicate samples of any samples it takes as part of its oversight of Respondent's implementation of the Work.

All analytical data collected under this SOW shall be provided electronically to EPA.

## **2. Health and Safety Plan(s)**

The HASP(s) ensures protection of health and safety during the performance of work under the AOC and this SOW. The HASP shall be prepared in accordance with EPA's Standard Operating Safety Guide (PUB 9285.1-03, PB 92-963414, June 1992). In addition, the plan shall comply with all currently applicable Occupational Safety and Health Administration ("OSHA") regulations found at 29 C.F.R. Part 1910. Respondent shall incorporate all changes to the plan recommended by EPA and shall implement the plan during the Removal Action.

## **3. Construction Quality Assurance Plan**

The CQAP describes the project-specific components of the performance methods and quality assurance program to ensure that the completed project meets or exceeds all design criteria, plans, and specifications. The draft Plan shall be submitted with the Prefinal design and the Final Plan shall be submitted with the Final Design. The Final Plan shall be submitted prior to the start of construction in accordance with the approved construction schedule. The Plan shall provide requirements for the following elements:

- Responsibilities and authorities of all organization and key personnel involved in the Removal Action construction, including EPA and other agencies.
- Qualifications of the Construction Quality Assurance (CQA) Officer. Establish the minimum training and experience of the CQA Officer and supporting inspection personnel.
- Inspection and verification activities. Establish the observations and tests that will be required to monitor the construction and/or installation of the components of the Removal Action. The plan shall include the scope and frequency of each type of inspection to be conducted. Inspections shall be required to verify compliance with

environmental requirements and ensure compliance with all health and safety procedures.

- Performance standards and methods. Describe all performance standards and methods necessary to implement the removal construction. Performance monitoring requirements shall be designed to demonstrate that best management practices have been implemented during dredging operations, dredged or excavated material transportation, and cap placement.
- Sampling activities. Establish requirements for quality assurance sampling activities, including the sampling protocols, sample size, sample locations, frequency of testing, acceptance and rejection data sheets, and plans for correcting problems as addressed in the project specifications.
- Documentation. Establish the reporting requirements for construction quality assurance activities. This shall include such items as daily and weekly summary reports, inspection data sheets, problem identification and corrective measures reports, design acceptance reports, and final documentation. A description of the provisions for final storage of all records consistent with the requirements of the AOC shall be included.

#### **IV. SUMMARY OF MAJOR DELIVERABLES/SCHEDULE**

The schedule for submission to EPA of deliverables described in the SOW is presented in Table 1.



<b>TABLE 1 – Schedule of Project Deliverables</b>		
Engineering Evaluation/Cost Analysis (EE/CA) Work Plan	Draft EE/CA Work Plan	Within 90 days after effective date of AOC.
	Final EE/CA Work Plan	Within 30 days after receipt of EPA comments on draft.
Upland Source Control	Upland Source Control Evaluation Report	Evaluation of upland source control will be completed in accordance with the schedule in the final EE/CA work plan.
Removal Action Area Characterization Report	Draft Removal Action Area Characterization Reports	Within 150 days after EPA approval of the EE/CA Work Plan unless otherwise approved in the schedule in the Final EE/CA Work Plan if adequate justification is given and is approved by EPA.
	Final Removal Action Area Characterization Report	Within 30 days after receipt of EPA comments on draft Report.
Engineering Evaluation/Cost Analysis (EE/CA) Report	Technical Briefing on Proposed Remedial Alternatives	Within 30 days after approval of the Final Removal Action Area Characterization Report by EPA.
	First Draft EE/CA	Within 90 days of the Technical Briefing on Proposed Removal Alternatives.
	Second Draft (Public Review) EE/CA	Within 60 days after receipt of EPA comments on first draft EE/CA.
	Final EE/CA	Within 60 days after receipt of EPA comments on second draft EE/CA.
Biological Assessment and 404 Memorandum	Draft Biological Assessment and Draft Clean Water Act Section 404 Memorandum	Submitted with draft EE/CA
	Revised Biological Assessment and Revised	Submitted with revised draft EE/CA, within 60 days after

TABLE 1 – Schedule of Project Deliverables		
	Clean Water Act Section 404 Memorandum	receipt of EPA comments on first draft EE/CA.
	Draft Final BA	If the ESA agencies determine that additional design information is necessary for a final BA, then a draft final BA shall be due as determined by the ESA agencies.
Project Design Documents	Conceptual (30 percent) Design	Within 90 days of EPA signature of the Action Memorandum.
	Prefinal (90 percent) Design	Within 90 days after receipt of EPA comments on conceptual design.
	Final (100 percent) Design	<p>Within 60 days after receipt of EPA comments on prefinal design.</p> <p>The above deadlines may be modified in accordance with the schedule in the EE/CA final report if adequate justification is given and is approved by EPA.</p>
Removal Action Work Plan	Draft Removal Action Work Plan	Within 60 days after EPA approval of the Contractor or in accordance with the schedule in the 100% design deliverable, if changes are justified in the document and approved by EPA.
	Final Removal Action Work Plan	Within 30 days after receipt of EPA comments on draft Removal Action Work Plan.
Implementation of Removal Action	Notification of Removal Action Start	Provide notification to EPA 30 days prior to initiation of Removal Action fieldwork to allow EPA to coordinate field oversight activities.
	Removal Action Start	30 days after Notification

TABLE 1 – Schedule of Project Deliverables		
Removal Action Completion Report	Draft Removal Action Completion Report	Removal Action Within 60 days after completion of Removal Action (construction phase).
	Final Removal Action Completion Report	Within 30 days after receipt of EPA comments on Draft Removal Action Completion Report.
Long-Term Monitoring and Reporting Plan	Draft Long-Term Monitoring and Reporting Plan	Within 60 days after EPA approval of the Final Design.
	Final Long-Term Monitoring and Reporting Plan	Within 60 days after completion of the removal action and receipt of EPA comments.
	Monitoring Data Reports	Schedule to be proposed by Respondent in the Long-Term Monitoring and Reporting Plan.

Reference to EPA comments reflects EPA's consideration of comments, including comments from the Oregon DEQ, the Tribes, and federal and state Natural Resource Trustees.

## **Attachment 1**

### **Tribal Cost Documentation Template**

**Summary of Arkema Removal Action Costs Incurred for FY\_\_ for the Tribes**

<b>Tribe</b>	<b>Cost Incurred</b>
Grand Ronde	\$0.00
Nez Perce	\$0.00
Siletz	\$0.00
Umatilla	\$0.00
Warm Springs	\$0.00
Yakama	\$0.00
<b>Tribal Total Costs</b>	<b>\$0.00</b>
<b>Shared Consultant Total Costs</b>	<b>\$0.00</b>
<b>Overall Total Costs</b>	<b>\$0.00</b>
<b>Amount Budgeted</b>	<b>\$0.00</b>
<b>Funds to be rolled over to FY__</b>	<b>\$0.00</b>

**Summary Chart of Arkema Removal Action Cost Documentation for FY\_\_ for the Six Tribes**

Tribe	Staff	Month												Total Time	Rate	Totals
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Grand Ronde	Employee - hrs.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	\$0.00
	Employee Expenses (\$)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	N/A	\$0.00
															Tribe total:	\$0.00
Nez Perce	Employee - hrs.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	\$0.00
	Employee Expenses (\$)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	N/A	\$0.00
															Tribe total:	\$0.00
Siletz	Employee - hrs.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	\$0.00
	Employee Expenses (\$)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	N/A	\$0.00
															Tribe total:	\$0.00
Umatilla	Employee - hrs.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	\$0.00
	Employee Expenses (\$)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	N/A	\$0.00
															Tribe total:	\$0.00
Warm Springs	Employee - hrs.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	\$0.00
	Expenses (\$)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	N/A	\$0.00
															Tribe total:	\$0.00
Yakama	Employee - hrs.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	\$0.00
	Expenses (\$)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	N/A	\$0.00
															Tribe total:	\$0.00
FY__ Arkema Removal Action Costs for the Tribes:																\$0.00

## FY\_\_ Arkema Removal Action Tribal Expense Report

### Employee A

Date(s)	Amount	Description
October	\$0.00	Mileage, Parking, Per Diem
November	\$0.00	Mileage, Parking, Per Diem
December	\$0.00	Mileage, Parking, Per Diem
~~~~~		
September	\$0.00	Mileage, Parking, Per Diem
Total	\$0.00	

### Employee B

Date(s)	Amount	Description
October	\$0.00	Mileage, Parking, Per Diem
November	\$0.00	Mileage, Parking, Per Diem
December	\$0.00	Mileage, Parking, Per Diem
~~~~~		
September	\$0.00	Mileage, Parking, Per Diem
Total	\$0.00	

**Tribe Total    \$0.00**

# INVOICE

<b>BILL TO:</b>	

SEMS\_296425



**Time by JOB DETAIL**  
**XXXXX XX, XXXX through XXXXX XX, XXXX {dates}**

<u>Date</u>	<u>Name</u>	<u>Duration</u>	<u>Class</u>
<b>Arkema/Atofina</b>			
<b>Engineering Evaluation/Cost Analysis Work Plan</b>			
<b>Sr. Associate</b>			
xx/xx/xxxx	Employee A	0.00	Calls/Mtgs Arkema
xx/xx/xxxx	Employee B	0.00	Calls/Mtgs Partner
xx/xx/xxxx	Employee C	0.00	Calls/Mtgs Tribal
Total Sr. Associate		0.00	
<b>Analyst</b>			
xx/xx/xxxx	Employee A	0.00	Doc Prep
xx/xx/xxxx	Employee B	0.00	Doc/data review
xx/xx/xxxx	Employee C	0.00	Doc/Logistical Mngmt
Total Analyst		0.00	
<b>Removal Action Area Characterization Report(s)</b>			
<b>Sr. Associate</b>			
xx/xx/xxxx	Employee A	0.00	Meeting
xx/xx/xxxx	Employee B	0.00	Planning/Analysis
xx/xx/xxxx	Employee C	0.00	T/C
Total Sr. Associate		0.00	
<b>Analyst</b>			
xx/xx/xxxx	Employee A	0.00	Calls/Mtgs Arkema
xx/xx/xxxx	Employee B	0.00	Calls/Mtgs Partner
xx/xx/xxxx	Employee C	0.00	Calls/Mtgs Tribal
Total Analyst		0.00	
Total Arkema/Atofina:		0.00	
<b>TOTAL</b>		<b>0.00</b>	

**Shared Consultant FY\_\_ Arkema Removal Action  
Expenses**

Expense Reports	
Employee 1	\$0.00
Employee 2	\$0.00
Employee 3	\$0.00
<u>Subtotal</u>	<u>\$0.00</u>
 Hotel	 \$0.00
<u>Subtotal</u>	<u>\$0.00</u>
 Cab	 \$0.00
 Tribal Working Lunch	 \$0.00
 Phone	 \$0.00
 Shipping	 \$0.00
<u>Subtotal</u>	<u>\$0.00</u>
 <u>Total</u>	 <u>\$0.00</u>

ENVIRONMENT INTERNATIONAL Ltd.

## EXPENSE REPORT

Name:

Destination/ Purpose of Trip:

Travel Date(s)												Totals	Actg.
Lodging Location													
Job Name													
Expense Items													
1. Lodging												\$ -	
2. Meals - Employee												\$ -	
3. Reimbursible Meals												\$ -	
4. Meals- Business												\$ -	
5. Gratuities												\$ -	
6. Fares, Tolls, Parking												\$ -	
7. Car Rental												\$ -	
8. Communications												\$ -	
9. Office Supplies												\$ -	
10. Other Expense												\$ -	
11. Other Expense												\$ -	
12. Airline/Travel												\$ -	
13. Mileage:												\$ -	
14. U.S. Dollar Equivalent Converted												\$ -	
TOTAL	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	

### Business Meal Description

Date	Restaurant	Location	Name(s) of Guests	Title(s)	Company	Business Purpose

Remarks (explain amounts included in 10&11)

Photocopies of documents

Employee Signature: \_\_\_\_\_ Date \_\_\_\_\_

Approving Authority: \_\_\_\_\_

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HEARINGS CLERK  
EPA--REGION 10

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION X**

**IN THE MATTER OF:**

**Portland Harbor Superfund Site,**

**ATOFINA Chemicals, Inc., Chevron U.S.A. Inc.,**

**Gunderson, Inc., Northwest Natural Gas,**

**City of Portland, Port of Portland,**

**Time Oil Co., Tosco Corporation,**

**Union Pacific Railroad Company,**

**RESPONDENTS,**

**Proceeding Under Sections 104, 122(a), and**

**122(d)(3) of the Comprehensive**

**Environmental Response, Compensation,**

**and Liability Act (CERCLA), as amended,**

**42 U.S.C §§ 9604, 9622(a), 9622(d)(3).**

**U.S. EPA Docket Number  
CERCLA-10-2001-0240**

**ADMINISTRATIVE ORDER ON CONSENT  
FOR REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

**II. INTRODUCTION**

1. This Administrative Order on Consent (Consent Order or Order) is entered into voluntarily by the United States Environmental Protection Agency (EPA) and the above-captioned Respondents. This Consent Order concerns the preparation of and performance of, and reimbursement for all costs incurred by EPA in connection with a Remedial Investigation and Feasibility Study (RI/FS) for the Portland Harbor Superfund Site (Site) in the state of Oregon.

**Portland Harbor Superfund Site RI/FS AOC - 1**

## II. JURISDICTION

1  
2           1.       This Consent Order is issued under the authority vested in the President of the  
3 United States by Sections 104, 122(a), and 122(d)(3) of the Comprehensive Environmental Response,  
4 Compensation, and Liability Act, as amended, 42 U.S.C. §§ 9604, 9622(a), and 9622(d)(3) (CERCLA).  
5 This authority was delegated to the Administrator of EPA on January 23, 1987, by Executive Order  
6 12580, 52 Fed. Reg. 2926 (1987), and further delegated to Regional Administrators by EPA Delegation  
7 No. 14-14-C. This authority has been redelegated by the Regional Administrator to the Region X  
8 Director, Environmental Cleanup Office, and Unit Managers thereunder. This Consent Order is further  
9 supplemented by authority vested in the President of the United States by Section 311(e) of the Federal  
10 Water Pollution Control Act, 33 U.S.C. § 1321(e), as amended (CWA), and Oil Pollution Act of 1990,  
11 33 U.S.C. § 2701 et seq. This authority has been delegated to the Administrator of EPA by Executive  
12 Order No. 12777, 58 Fed. Reg. 54757 (1991), and further delegated to the Regional Administrators by  
13 EPA Delegation Nos. (2-85, 2-89), and redelegated by the Regional Administrator to the Region X  
14 Director, Environmental Cleanup Office.

15           2.       Respondents agree to undertake all actions required by this Consent Order. In  
16 any action by EPA or the United States to enforce this Consent Order, Respondents consent to and agree  
17 not to contest the authority or jurisdiction of EPA to issue or enforce this Consent Order, and agree not  
18 to contest the validity of this Order.  
19

### III. PARTIES BOUND

1. This Consent Order shall apply to and be binding upon EPA, and shall be binding upon Respondents, their agents, successors, assigns, officers, directors, and principals. Respondents are jointly and severally responsible for carrying out all actions required of them by this Consent Order. The signatories to this Consent Order certify that they are authorized to execute and legally bind the parties they represent to this Consent Order. No change in the ownership or corporate status of any Respondent or of any facility or the Site shall alter Respondents' responsibilities under this Consent Order.

2. Respondents shall provide a copy of this Consent Order to any subsequent owners or successors before ownership rights are transferred in any corporate acquisition or other transaction that results in: 1) the transfer of substantially all the assets of any entity that is a signatory to the Consent Order, or 2) the transfer of substantially all of the assets related to the Site (whether or not that constitutes substantially all the assets of the entity as a whole), or 3) constitutes a transfer of ownership rights that results in a change of control of any entity that is a signatory to this Consent Order. Respondents shall provide a copy of this Consent Order to all contractors, subcontractors, laboratories, and consultants which are retained to conduct any work performed under this Consent Order, within fourteen (14) days after the effective date of this Consent Order or the date of retaining their services, whichever is later. Respondents shall condition any such contracts upon satisfactory compliance with this Consent Order. Notwithstanding the terms of any contract, Respondents are responsible for compliance with this Consent Order and for ensuring that their subsidiaries, employees, contractors, consultants, subcontractors, agents, and attorneys comply with this Consent Order, to the extent that these persons are associated with the Site or perform any work or tasks for or on behalf of Respondents in furtherance of compliance with this Order.

### IV. STATEMENT OF PURPOSE

1. In entering into this Consent Order, the objectives of EPA and Respondents are: (a) to determine the nature and extent of contamination and any threat to the public health, welfare, or the environment caused by the release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site, including oil, by conducting an RI including identification of early actions which shall not be implemented or performed pursuant to this Order; (b) to determine and evaluate alternatives for remedial action to prevent, mitigate, or otherwise respond to or remedy any release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site, by conducting an FS; (c) to recover response and oversight costs incurred by EPA and its Support Agency, the Oregon Department of Environmental Quality (DEQ), with respect to this Consent Order; and, (d) to accomplish the objectives as further described in the Statement of Work (SOW) (Attachment A), and the Stipulation Agreement (Attachment B), which are incorporated into this Order by this reference and made a part hereof as if fully set forth herein.

2. The activities conducted under this Consent Order are subject to approval by EPA. Respondents shall provide all appropriate necessary information for the RI/FS for a CERCLA Record of Decision (ROD) that is consistent with CERCLA and the National Oil and Hazardous Substance Pollution Contingency Plan (NCP), 40 C.F.R. Part 300, as now or hereafter amended. The activities conducted under this Consent Order shall be conducted in compliance with the NCP and consistent with all applicable EPA guidance, policies, and procedures.

## V.FINDINGS OF FACT

EPA makes the following Findings of Fact, which the Respondents neither admit nor deny:

1. The Site consists of the areal extent of contamination, and all suitable areas in proximity to the contamination necessary for implementation of response action, at, from and to the Portland Harbor Superfund Site Assessment Area from approximately River Mile (RM) 3.5 to RM 9.2 (Assessment Area), including uplands portions of the Site that contain sources of contamination to the sediments at, on or within the Willamette River. The boundaries of the Site will be initially determined upon issuance of a Record of Decision. RI/FS work for uplands facilities is being or will be conducted pursuant to separate agreements or orders issued by DEQ or EPA and is not covered by this Order which is for the in-water portion of the Site. Portland Harbor and the River have served as a major industrial water corridor for more than a century. Industrial use of the Harbor and River has been extensive. The River is also habitat to wildlife, numerous fish, shellfish, and other aquatic species, including species listed under the Endangered Species Act (ESA). The Confederated Tribes and Bands of the Yakama Nation, the Confederated Tribes of the Grand Ronde Community of Oregon, the Confederated Tribes of Siletz Indians, the Confederated Tribes of the Umatilla Indian Reservation, the Nez Perce Tribe, and the Confederated Tribes of the Warm Springs Reservation of Oregon have treaty-reserved rights and resources, and/or other rights, interests, or resources in the Site.

2. EPA and DEQ have agreed to share responsibility for investigation and cleanup of the Site. DEQ has the lead responsibility for conducting upland work necessary for source control, and EPA is the Support Agency for that work, consistent with the role of Support Agency as set forth in the NCP. DEQ may elect for any reason to ask EPA to assume Lead Agency responsibility for any upland source control, which shall in no event be within the scope of this Order. EPA has the lead responsibility for conducting in-water work, including coordination of EPA's lead work with DEQ's source identification and source control activities. DEQ is the Support Agency for EPA's in-water work, consistent with the role of Support Agency as set forth in the NCP.

3. Based on site assessment activities conducted by EPA in the Assessment Area, contaminants found in the Assessment Area include, but are not limited to, polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), polychlorinated dibenzo-dioxins and furans (PCDD/PCDF), total petroleum hydrocarbons (TPHs), semi-volatile organic compounds (SVOCs), dichloro-diphenyl-trichloroethane (DDT) and other pesticides, herbicides, tributyl tin, mercury and other metals, and phthalates. The Site has been the subject of several studies by government and private entities. The Site has also been subject to historic dredging activities for many years. Sources of releases to the Site include releases over a long history of commercial shipping activities, releases from industrial and commercial operations, sewer outfalls, urban storm runoff, and agricultural runoff.

4. The Site has been listed on the National Priorities List pursuant to Section 105 of CERCLA, 42 U.S.C. 9605, at 65 Fed. Reg. 75179-01, December 1, 2000.

5. Respondent ATOFINA Chemicals, Inc. is a Pennsylvania Corporation doing business in the state of Oregon, primarily engaged in chemicals manufacturing. Respondent Chevron U.S.A. Inc. is a Pennsylvania Corporation doing business in the state of Oregon, primarily engaged in petroleum product production and distribution. Respondent Gunderson, Inc. is an Oregon Corporation primarily engaged in rail car and barge manufacturing. Respondent Northwest Natural Gas is an Oregon Corporation primarily engaged in the distribution of natural gas. Respondent Time Oil Co. is a Washington Corporation doing business in the state of Oregon, primarily engaged in retail petroleum distribution. Respondent Tosco Corporation is a Nevada Corporation doing business in the state of

Oregon, primarily engaged in oil refining and petroleum product distribution and sales. Respondent Union Pacific Railroad is a Delaware Corporation doing business in the state of Oregon, primarily engaged in railroad transportation. Respondent Port of Portland is a public port duly organized under Oregon law. Respondent City of Portland is the most populous municipality in the state of Oregon.

6. EPA has not yet performed a potentially responsible party (PRP) search for the Site. Additional parties may be identified as potentially liable for releases and contamination at the Site.

## **VI. CONCLUSIONS OF LAW AND DETERMINATIONS**

EPA makes the following Conclusions of Law and Determinations which Respondents neither admit nor deny.

1. The Site is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. § 9601(9), and includes onshore facilities, offshore facilities, and inland waters of the United States and navigable waters, as defined in Sections 311(a)(10), (11) and (16) of CWA, 33 U.S.C. § 1321(a), and Sections 1001(24) and (21) of OPA, 33 U.S.C. § 2701(24) and (21).

2. Wastes and constituents thereof at the Site, as identified in the preceding Section, are "hazardous substances" as defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), or constitute "any pollutant or contaminant" that may present an imminent and substantial danger to public health or welfare under Section 104(a)(1) of CERCLA, 42 U.S.C. § 9604(a)(1). TPHs at the Site, as identified in the preceding Section, are from discharges of oil, as defined in Sections 311(a)(1) and (2) of CWA, 33 U.S.C. § 1321(a)(1) and (2), and Sections 1001(23) and (7) of OPA, 33 U.S.C. § 2701(23) and (7).

3. The presence of hazardous substances at the Site or the past, present, or potential migration of hazardous substances currently located at or emanating from the Site, constitute actual and/or threatened "releases" as defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22). The presence of actual or threatened discharges of oil at the Site from vessels and/or facilities in violation of Section 311(b) of CWA, 33 U.S.C. § 1321(b), may be an imminent and substantial threat to the public health or welfare of the United States, including fish, shellfish, wildlife, public and private property, shorelines, beaches, habitat, and/or other living and nonliving natural resources under the jurisdiction or control of the United States.

4. Each Respondent is a "person" as defined in Section 101(21) of CERCLA, 42 U.S.C. § 9601(21), and/or Section 311(a)(7) of CWA, 33 U.S.C. § 1321(a)(7), and Section 1001(27) of OPA, 33 U.S.C. § 2701(27).

5. Each Respondent is a responsible party under Sections 104, 106, 107, and 122 of CERCLA, 42 U.S.C. §§ 9604, 9606, 9607, and 9622. In lieu of issuing an order to compel Respondents to conduct the RI/FS, or seeking reimbursement from Respondents for EPA's conduct of the RI/FS, EPA has entered into this Order through which Respondents have agreed to conduct the RI/FS.

6. The actions required by this Consent Order are necessary to protect the public health and welfare and the environment, are in the public interest, are consistent with CERCLA and the NCP, 42 U.S.C. §§ 9604(a)(1), will expedite effective remedial action and minimize litigation, 42 U.S.C. § 9622(a), and are consistent with Section 311 of CWA, OPA., and regulations thereunder.



## VII. WORK TO BE PERFORMED

1. All work performed under this Consent Order shall be under the direction and supervision of qualified personnel. Within thirty (30) days of the effective date of this Order, and before the work outlined below begins, Respondents shall notify EPA in writing, of the names, titles, and qualifications of the personnel, including contractors, subcontractors, consultants, and laboratories to be used in carrying out such work. The qualifications of the persons undertaking the work for Respondents shall be subject to EPA review, for verification that such persons meet minimum technical background and experience requirements.

2. This Order is contingent on Respondents' demonstration to EPA's satisfaction that Respondents are qualified to perform properly and promptly the actions set forth in this Consent Order. If EPA disapproves, in writing, of any person(s)' technical qualifications Respondents shall notify EPA of the identity and qualifications of the replacement(s) within thirty (30) days of the written notice. If EPA subsequently disapproves of the replacement(s), EPA reserves the right to terminate this Order and to conduct a complete RI/FS, and to seek reimbursement for costs and penalties from Respondents. During the course of the RI/FS, Respondents shall notify EPA in writing of any changes or additions in the personnel used to carry out such work, providing their names, titles, and qualifications. EPA shall have the same right to approve changes and additions to personnel as they have hereunder regarding the initial notification.

3. Respondents shall conduct activities and submit deliverables as provided in the attached SOW. All such work shall be conducted in accordance with CERCLA, the NCP, as now or hereafter amended, and EPA guidance including, but not limited to, the "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" (OSWER Directive # 9355.3-01), "Guidance for Data Usability in Risk Assessment" (OSWER Directive # 9285.7-05) and guidance referenced therein, and guidance referenced in the SOW, as may be amended or modified by EPA. The general activities that Respondents are required to perform are identified below, followed by a list of deliverables. The tasks that Respondents must perform are described more fully in the SOW.

4. For the purposes of this Order, day means calendar day unless otherwise noted in this Order. In addition, all deliverables, including progress reports, to be submitted to EPA pursuant to this Consent Order shall also be submitted to the Designated Project Coordinators listed in Section XV of this Order.

A. Task 1: Shared Server. Within ninety (90) days of the effective date of this Order, Respondents shall develop a shared server as described in the attached SOW to facilitate project management.

B. Task 2: Scoping. EPA has determined the preliminary Site-specific objectives of the RI/FS and has devised a general management approach for the Site as set forth in the attached SOW. Respondents shall conduct the remainder of scoping activities as described in the SOW and referenced guidance. Within sixty (60) days of the effective date of this Order, Respondents shall meet with EPA and DEQ to determine the most efficient manner for understanding and incorporating EPA and DEQ upland information into the scoping task, and shall document conclusions reached during this meeting in a technical memorandum. Within two hundred ten (210) days of the effective date of this Order, Respondents shall gather, evaluate, and present the existing Site information and data as described in the SOW. During, and at the conclusion of project scoping, Respondents shall submit the following deliverables to EPA for review and approval:

i. Site Background

a. Within ninety (90) days of the effective date of this Order, Respondents shall submit a proposal for design of the Site relational database to EPA. If EPA disapproves of or requires revisions to the proposal for the Site relational database, in whole or in part, Respondents shall amend and submit a revised proposal for design of the Site relational database to EPA which is responsive to the directions in all EPA comments, within sixty (60) days of receiving EPA's comments.

b. Within ninety (90) days of the effective date of this Order, Respondents shall submit Data Quality Objectives to EPA which specify the usefulness of existing data. If EPA disapproves of or requires revisions to the Data Quality Objectives, in whole or in part, Respondents shall amend and submit the revised Data Quality Objectives to EPA which are responsive to the directions in all EPA comments, within sixty (60) days of receiving EPA's comments.

c. Within two hundred ten (210) days of the effective date of this Order, or within sixty (60) days of receiving EPA's comments on the design of the Site relational database, whichever is later, Respondents shall complete the Site relational database. If EPA disapproves of or requires revisions to the Site relational database, in whole or in part, Respondents shall revise the Site relational database in a manner responsive to the directions of EPA, within thirty (30) days of receiving EPA's comments. Within one hundred fifty (150) days of Respondents' receipt of a memorandum from EPA describing the requirements of the cultural resources analysis, or such longer time for submittal as EPA may determine, Respondents shall submit this analysis.

d. Within two hundred ten (210) days of the effective date of this Order, Respondents shall construct and complete a table that identifies data gaps, lists the preferred method of filling those gaps, and specifically addresses how additional data will be used. The table shall include an analysis identifying additional information and data that will be required to complete the baseline human health and ecological risk assessments, and to identify and screen remedial action alternatives. If EPA disapproves of or requires revisions to the table, in whole or in part, Respondents shall amend and submit a revised table to EPA which is responsive to the directions in all EPA comments, within thirty (30) days of receiving EPA's comments.

e. Within ninety (90) days of the effective date of this Order, Respondents shall conduct a Site visit by boat, document collected information in a trip report primarily consisting of a narrated video, and submit a Site visit trip report to EPA. If EPA disapproves of or requires revisions to the trip report, in whole or in part, Respondents shall amend and submit the revised trip report to EPA which is responsive to the directions in all EPA comments, within sixty (60) days of receiving EPA's comments.

ii. Project Planning.

a. Within one hundred twenty (120) days of the effective date of this Order, Respondents shall meet with EPA and submit a draft risk assessment scoping memorandum that includes preliminary analytical concentration goals described in the SOW. If EPA disapproves of or requires revisions to the memorandum, in whole or in part, Respondents shall amend and submit the revised memorandum to EPA which is responsive to the directions in all EPA comments, within thirty (30) days of receiving EPA's comments.

b. Within two hundred ten (210) days of the effective date of this Order, Respondents shall submit and/or complete deliverables and/or work products described in the attached Stipulated Agreement. If EPA disapproves of or requires revisions to any deliverable or work product described in the Stipulated Agreement, in whole or in part, Respondents shall amend and submit a revised deliverable or work product to EPA which is responsive to the directions in all EPA comments, within thirty (30) days of receiving EPA's comments.

1 c. Within one hundred fifty (150) days of the effective date of this Order,  
2 Respondents shall submit a preliminary conceptual Site model (CSM) to EPA. If EPA disapproves of or  
3 requires revisions to the preliminary CSM, in whole or in part, Respondents shall amend and submit the  
4 revised preliminary CSM to EPA which is responsive to the directions in all EPA comments, within  
5 thirty (30) days of receiving EPA's comments.

6 d. Within two hundred ten (210) days of the effective date of this Order,  
7 Respondents shall submit a draft technical memorandum to EPA identifying potential criteria for  
8 identification of candidate early action areas, and which then uses these criteria to identify areas that  
9 may be candidates for early action. If EPA disapproves of or requires revisions to the memorandum, in  
10 whole or in part, Respondents shall amend and submit a memorandum to EPA which is responsive to  
11 the directions in all EPA comments, within thirty (30) days of receiving EPA's comments.

12 e. Within two hundred ten (210) days of the effective date of this Order,  
13 Respondents shall submit draft technical memoranda to EPA that identifies preliminary RAOs,  
14 describes the process needed to identify and obtain disposal site options for contaminated sediment,  
15 identifies potential sources of sediment capping materials and outlines testing requirements needed to  
16 evaluate the acceptability of the material, and identifies the data needed to evaluate natural attenuation.  
17 If EPA disapproves of or requires revisions to any one or more of these memoranda, in whole or in part,  
18 Respondents shall amend and submit a revised memorandum to EPA which is responsive to the  
19 directions in all EPA comments, within thirty (30) days of receiving EPA's comments.

20 f. Within two hundred ten (210) days of the effective date of this Order,  
21 Respondents shall submit a draft RI/FS work plan for the Initial Study Area (ISA) and adjacent areas as  
22 these areas are described in the SOW to EPA, which shall document the decisions and evaluations  
23 completed during the scoping process. If EPA disapproves of or requires revisions to the draft RI/FS  
24 work plan, in whole or in part, Respondents shall amend and submit a revised work plan to EPA which  
25 is responsive to the directions in all EPA comments, within thirty (30) days of receiving EPA's  
26 comments.

27 g. Within two hundred ten (210) days of the effective date of this Order,  
28 Respondents shall submit the sampling & analysis plan (SAP) to EPA. This plan shall consist of a field  
29 sampling plan (FSP) and a quality assurance project plan (QAPP), as described in the SOW and  
30 applicable guidance. If EPA disapproves of or requires revisions to any of these plans, in whole or in  
31 part, Respondents shall amend and submit a revised plans to EPA which are responsive to the directions  
32 in all EPA comments, within thirty (30) days of receiving EPA's comments.

33 h. Within two hundred ten (210) days of the effective date of this Order,  
34 Respondents shall submit a project management plan, a data management plan, and a site health &  
35 safety plan to EPA, as described in the SOW. If EPA disapproves of or requires revisions to any of  
36 these plans, in whole or in part, Respondents shall amend and submit revised plans to EPA which are  
37 responsive to the directions in all EPA comments, within thirty (30) days of receiving EPA's comments.

38 iii. Following approval or modification by EPA of deliverables submitted by  
39 Respondents, such deliverables shall be incorporated by reference herein.

40 C. Task 3: Community Relations Plan. EPA will prepare an in-water Community  
41 Relations/Public Participation Plan, in accordance with EPA guidance and the NCP. Respondents shall  
42 provide information supporting EPA's in-water community relations programs. (See SOW for Task 4.)

43 D. Task 5: Site Characterization. Following EPA approval or modification of the  
44 RI/FS work plan described in subparagraph B. Task 2.ii.f, above, and the SAP, or following EPA  
45 approval or modification of any required addenda for these plans, Respondents shall implement the

provisions of these plans to characterize the Site. Respondents shall complete Site characterization within twelve (12) months of EPA approval or modification of the RI/FS work plan for the ISA and adjacent areas, or in accordance with the approved project schedule. Respondents shall provide EPA with analytical data within sixty (60) days of each sampling activity, in an electronic format showing the location, medium, and results. Respondents shall notify EPA in writing within seven (7) days of completion of field activities. During Site characterization, Respondents shall provide EPA with the following deliverables, as described in the SOW and/or work plan.

i. If EPA determines, or Respondents propose and EPA approves the proposal that modeling is appropriate, within sixty (60) days of approval of the RI/FS work plan described in subparagraph B. Task 2.ii.f, above, Respondents shall submit a technical memorandum on modeling of Site characteristics, as described in the SOW. If EPA disapproves of or requires revisions to the technical memorandum on modeling of Site characteristics, in whole or in part, Respondents shall amend and submit a revised technical memorandum on modeling of Site characteristics to EPA which is responsive to the directions in all EPA comments, within thirty (30) days of receiving EPA's comments.

ii. Within one hundred twenty (120) days after completion of field sampling and analysis, as specified in the SOW, for the RI/FS work plan described in subparagraph B. Task 2.ii.f, above, or as may be required for subsequent work plan addenda, Respondents shall submit a Site characterization summary to EPA. If EPA disapproves of or requires revisions to the Site characterization summary, in whole or in part, Respondents shall amend and submit a revised Site characterization summary to EPA which is responsive to the directions in all EPA comments, within thirty (30) days of receiving EPA's comments.

E. Draft Remedial Investigation Report. Within one hundred twenty (120) days after completion of field sampling and analysis, as specified in the SOW, and after completion of work set forth in the RI/FS work plan described in subparagraph B. Task 2.ii.f, above, and any subsequent addenda as determined to be necessary by EPA, Respondents shall submit a draft remedial investigation report (RI report) consistent with the SOW, work plans, and SAP. If EPA disapproves of or requires revisions to the draft RI report, in whole or in part, Respondents shall amend and submit a revised RI report to EPA which is responsive to the directions in all EPA comments, within thirty (30) days of receiving EPA's comments.

F. Task 6: Treatability Studies. Respondents shall conduct treatability studies, except where Respondents can demonstrate to EPA's satisfaction that they are not needed. Major components of the treatability studies include determination of the need for, and scope of, studies, the design of the studies, and the completion of the studies, as described in the SOW. During treatability studies, Respondents shall submit the following deliverables to EPA:

i. An identification of candidate technologies memorandum shall be submitted within sixty (60) days of receipt of EPA's written confirmation notice that treatability studies are required. If EPA disapproves of or requires revisions to the technical memorandum identifying candidate technologies, in whole or in part, Respondents shall amend and submit a revised technical memorandum identifying candidate technologies to EPA which is responsive to the directions in all EPA comments, within thirty (30) days of receiving EPA's comments.

ii. If EPA determines that treatability testing is required, within ninety (90) days of receipt of EPA's written confirmation notice that treatability studies are required or such longer time as EPA may specify, Respondents shall submit a treatability testing statement of work. If EPA disapproves of or requires revisions to the treatability testing statement of work, in whole or in part, Respondents

1 shall amend and submit a revised treatability testing statement of work to EPA which is responsive to the  
2 directions in all EPA comments, within thirty (30) days of receiving EPA's comments.

3       iii. Within sixty (60) days of receipt of EPA's written comments on the treatability  
4 testing statement of work, Respondents shall submit a treatability testing work plan, including a schedule  
5 to EPA. If EPA disapproves of or requires revisions to the treatability testing work plan, in whole or in  
6 part, Respondents shall amend and submit a revised Treatability Testing Work Plan to EPA which is  
7 responsive to the directions in all EPA comments, within thirty (30) days of receiving EPA's comments.

8       iv. Within sixty (60) days of the identification of the need for a separate or revised  
9 QAPP or FSP, Respondents shall submit a treatability study SAP to EPA. If EPA disapproves of or  
10 requires revisions to the treatability study SAP, in whole or in part, Respondents shall amend and submit  
11 a revised treatability study SAP to EPA which is responsive to the directions in all EPA comments,  
12 within thirty (30) days of receiving EPA's comments.

13       v. Within sixty (60) days of the identification of the need for a revised health &  
14 safety plan, Respondents shall submit a treatability study Site health & safety plan to EPA.

15       vi. Within one hundred twenty (120) days of completion of any treatability testing,  
16 Respondents shall submit a treatability study evaluation report as provided in the SOW and/or work plan  
17 to EPA. If EPA disapproves of or requires revisions to the treatability study report, in whole or in part,  
18 Respondents shall amend and submit a Revised treatability study report to EPA which is responsive to  
19 the directions in all EPA comments, within thirty (30) days of receiving EPA's comments.

20       G. Task 7: Development and Screening of Remedial Alternatives. Respondents shall  
21 develop an appropriate range of waste management options that will be evaluated through the  
22 development and screening of alternatives, as provided in the SOW. During the development and  
23 screening of alternatives, Respondents shall submit the following deliverables to EPA:

24       i. Within ninety (90) days after receipt of EPA's comments on the draft RI report,  
25 Respondents shall refine and document Site-specific RAOs using data collected during site  
26 characterization, and using results of the baseline human health and ecological risk assessments; if the  
27 risk assessments are not completed and approved by EPA by this time, Respondents shall use whatever  
28 draft baseline risk assessment information and data has been generated by the time refined Site-specific  
29 RAOs are due to EPA. If the refined RAOs are submitted to EPA prior to approval of the baseline risk  
30 assessment reports, after thirty (30) days of such written EPA approval of these reports, Respondents  
31 shall submit revised Site-specific RAOs. If EPA disapproves of or requires revisions to the Site-specific  
32 RAOs, in whole or in part, Respondents shall amend and submit revised Site-specific RAOs to EPA  
33 which are responsive to the directions in all EPA comments, within thirty (30) days of receiving EPA's  
34 comments.

35       ii. Within ninety (90) days after receipt of EPA's comments on the Site-specific  
36 RAOs, Respondents shall submit a memorandum summarizing the development and screening of  
37 remedial alternatives, including an alternatives array document as described in the SOW, to EPA. If EPA  
38 disapproves of or requires revisions to the memorandum summarizing the development and screening of  
39 remedial alternatives, in whole or in part, Respondents shall amend and submit a revised memorandum  
40 summarizing the development and screening of remedial alternatives to EPA which is responsive to the  
41 directions in all EPA comments, within thirty (30) days of receiving EPA's comments.

42       H. Task 8: Detailed Analysis of Remedial Alternatives. Respondents shall conduct a  
43 detailed analysis of remedial alternatives, as described in the SOW. During the detailed analysis of  
44 alternatives, Respondents shall provide the following to EPA:

i. Within one hundred twenty (120) days after receipt of EPA's comments on the memorandum summarizing the development and screening of remedial alternatives, Respondents shall submit a report on comparative analyses to EPA summarizing the results of the comparative analyses performed among the remedial alternatives. If EPA disapproves of or requires revisions to the report on comparative analyses, Respondents shall amend and submit a revised report on comparative analyses to EPA which is responsive to the directions in all EPA comments, within thirty (30) days of receiving EPA's comments. Within two (2) weeks of submitting the original report on comparative analyses, Respondents shall make a presentation to EPA during which Respondents shall summarize the findings of the RI and RAOs, and present the results of the nine criteria evaluation and comparative analyses, as described in the SOW.

ii. Within ninety (90) days after receipt of EPA's comments on the report on comparative analyses, Respondents shall submit a draft FS report which reflects the data collected during site characterization, the Site-specific RAOs, and the results of the baseline human health and ecological risk assessments. Respondents shall refer to Table 6-5 of the RI/FS Guidance for report content and format. If EPA disapproves of or requires revisions to the draft FS report, in whole or in part, Respondents shall amend and submit a revised FS report to EPA which is responsive to the directions in all EPA comments, within thirty (30) days of receiving EPA's comments. The report, as amended, and the administrative record, shall provide the basis for the Proposed Plan under CERCLA §§ 113(k) and 117(a) by EPA, and shall document the development and analysis of remedial alternatives.

iii. Upon receipt of the draft FS report, EPA will evaluate, as necessary, the estimates of the risk to the public and environment that are expected to remain after a particular remedial alternative has been completed.

## **VIII. BASELINE RISK ASSESSMENTS**

1. The baseline risk assessments shall be performed as set forth in the SOW.
2. If EPA does not approve of Respondents' qualifications to conduct the baseline risk assessments, EPA will determine the appropriate means of conducting the baseline risk assessments.

## **IX. APPROVALS/MODIFICATIONS**

1. EPA reserves the right to comment on, modify, and direct changes for all deliverables in writing. EPA's review will include consultation with DEQ, Tribes, and Natural Resource Trustees. EPA will meet with the Respondents in an effort to resolve disputes. At EPA's discretion, Respondents must fully correct all deficiencies and incorporate and integrate all information and comments supplied by EPA either in subsequent or resubmitted deliverables within a time frame specified by EPA. EPA will consider input from Respondents in specifying such timeframes.
2. Respondents shall not proceed further with any dependent subsequent activities or tasks until Respondents receive EPA approval for all deliverables identified in Section VII.4, including the following deliverables: draft RI/FS work plan described in subparagraph B. Task 2.ii.f, above, draft RI report, treatability testing work plan, draft FS report, and those deliverables identified by EPA related to the baseline risk assessments. While awaiting EPA approval on these deliverables, Respondents shall proceed with all other tasks and activities which may be conducted independently of these deliverables, in accordance with the schedule set forth in this Consent Order.
3. For all remaining deliverables not enumerated in Section VII.4 above, Respondents shall proceed with all subsequent tasks, activities, and deliverables. EPA reserves the right



1 to stop Respondents from proceeding further, either temporarily or permanently, on any task, activity, or  
2 deliverable at any point during the RI/FS.

3 4. If Respondents amend or revise a report, plan, or other submittal in  
4 response to EPA comments, and EPA subsequently disapproves of the revised  
5 submittal, or if such subsequent submittals do not fully reflect EPA's directions for  
6 changes, EPA retains the right to seek penalties, perform its own studies, complete the  
7 RI/FS (or any portion of the RI/FS) under CERCLA and the NCP, and seek  
8 reimbursement from Respondents for costs, and/or seek any other appropriate relief.

9 5. If EPA takes over some of the tasks, but not the preparation of the  
10 RI/FS, Respondents shall incorporate and integrate information supplied by EPA into  
11 the final RI/FS report.

12 6. Neither failure of EPA to expressly approve or disapprove of Respondents'  
13 submissions within any specified time period(s), nor the absence of comments, shall be construed as  
14 approval by EPA. EPA will provide approvals and disapprovals of deliverables required pursuant to this  
15 Order in writing.

16 7. Respondents shall, prior to any off-Site shipment of hazardous substances from  
17 the Site to an out-of-state waste management facility, provide written notification to the appropriate state  
18 environmental official in the receiving state and to EPA's Designated Project Coordinators of such  
19 shipment of hazardous substances. However, the notification of shipments shall not apply to any such  
20 off-Site shipments when the total volume of such shipments will not exceed ten (10) cubic yards. The  
21 notification shall be in writing, and shall include the following information, where available: (1) the  
22 name and location of the facility to which the hazardous substances are to be shipped; (2) the type and  
23 quantity of the hazardous substances to be shipped; (3) the expected schedule for the shipment of the  
24 hazardous substances; and (4) the method of transportation. Respondents shall notify the receiving state  
25 of major changes in the shipment plan, such as a decision to ship the hazardous substances to another  
26 facility within the same state, or to a facility in another state.

## 27 28 **X. MODIFICATION OF THE WORK PLAN**

29 1. If at any time during the RI/FS process, Respondents identify a need for  
30 additional data or need for a change in any element of the work plan, a memorandum documenting the  
31 need for additional data or other change shall be submitted to the EPA Project Coordinator within  
32 twenty (20) days of identification. EPA, in its discretion, will determine whether the additional data will  
33 be collected by Respondents or the requested change made and whether it will be incorporated into  
34 reports and deliverables.

35 2. Upon discovery of conditions posing an immediate threat to human health or  
36 welfare or the environment, Respondents shall notify EPA immediately. In the event of unanticipated or  
37 changed circumstances at the Site, Respondents shall notify the EPA Project Coordinator by telephone  
38 within twenty-four (24) hours of discovery of the unanticipated or changed circumstances. If EPA  
39 determines that the immediate threat or the unanticipated or changed circumstances warrant changes in  
40 the work plans, in addition to EPA's authorities in the NCP, EPA may modify or amend the work plans  
41 consistent with this Order, in writing. Respondents shall perform the work plans as modified or  
42 amended.

43 3. EPA may determine that in addition to tasks defined in the initially approved  
44 work plans, other additional work may be necessary to accomplish the objectives of the RI/FS. EPA may  
45 require Respondents to perform these response actions in addition to those required by this Order.

1 Respondents shall confirm their willingness to perform the additional work, in writing, to EPA within  
2 seven (7) days of receipt of the EPA request or Respondents shall invoke dispute resolution. Subject to  
3 EPA resolution of any dispute, Respondents shall implement the additional tasks which EPA determines  
4 are necessary. The additional work shall be completed according to the standards, specifications, and  
5 schedule set forth or approved by EPA in a written modification to the work plans or written work plan  
6 addenda. EPA reserves the right to conduct the work itself at any point, to seek reimbursement from  
7 Respondents, and/or to seek any other appropriate relief.

8 4. If EPA determines that conditions at the Site are creating or have the potential to  
9 create a danger to human health or welfare on-site or in the surrounding area or to the environment, EPA  
10 may order Respondents to stop further implementation of this Order for such period of time in the  
11 judgment of EPA is needed to abate the danger.

## 12 **XI. QUALITY ASSURANCE**

13  
14 1. Respondents shall assure that work performed, samples taken, and analyses  
15 conducted conform to the requirements of the SOW, QAPP, and guidance identified therein.  
16 Respondents shall assure that field personnel used by Respondents are properly trained in the use of  
17 field equipment and in chain-of-custody procedures.

## 18 **XII.FINAL RI/FS, PROPOSED PLAN, PUBLIC COMMENT,** 19 **RECORD OF DECISION AND ADMINISTRATIVE RECORD**

20  
21  
22 1. EPA retains the responsibilities for release to the public of the RI/FS report and  
23 the preparation and release of the Proposed Plan and the Record of Decision, in accordance with  
24 CERCLA and the NCP.

25 2. EPA shall provide Respondents with the Proposed Plan and Record of Decision.

26 3. EPA will determine the contents of its administrative record file for selection of  
27 the remedial action. Respondents must submit documents developed during the course of the RI/FS to  
28 EPA upon which selection of the response action may be based. If requested by EPA, Respondents  
29 shall provide copies of plans, task memoranda, including documentation of field modifications,  
30 recommendations for further action, quality assurance memoranda and audits, validated data, raw data,  
31 field notes, laboratory analytical reports, and other reports, concerning the implementation of this Order.  
32 Respondents must additionally submit any previous studies conducted under state, local, or other federal  
33 authorities relating to selection of the response action, and all communications between Respondents  
34 and state, local, or other federal authorities concerning selection of the response action. At EPA's  
35 discretion, Respondents may establish a community information repository at or near the Site, to house  
36 one copy of the administrative record.

## 37 **XIII. PROGRESS REPORTS AND MEETINGS**

38  
39 1. Respondents shall make presentations at, and participate in, meetings at the  
40 request of EPA during the initiation, conduct, and completion of the RI/FS. In addition to discussion of  
41 the technical aspects of the RI/FS, topics will include anticipated problems or new issues. Meetings will  
42 be scheduled at EPA discretion.

43 2. In addition to the deliverables set forth in this Order, Respondents shall submit  
44 monthly progress reports to EPA by the tenth (10th) day of each month. At a minimum, with respect to  
45 the preceding month, these progress reports shall: (1) describe the actions which have been taken to



1 comply with this Consent Order during that month; (2) include all results of sampling and tests and all  
2 other data received by Respondents that have been subjected to quality assurance pursuant to the QAPP;  
3 (3) describe work planned for the next two (2) months with schedules relating such work to the overall  
4 project schedule for RI/FS completion; and (4) describe all problems encountered and any anticipated  
5 problems, any actual or anticipated delays, and solutions developed and implemented to address any  
6 actual or anticipated problems or delays.

#### 7 8 **XIV. SAMPLING, ACCESS, AND DATA AVAILABILITY/ADMISSIBILITY**

9 1. All results of sampling, tests, modeling, or other data generated by Respondents,  
10 or on Respondents' behalf, for the implementation of this Consent Order, shall be submitted to EPA  
11 monthly as described in the preceding section of this Order. Raw data shall be submitted to EPA upon  
12 request. EPA will make validated data generated by EPA or DEQ available to Respondents unless it is  
13 exempt from disclosure by federal or state law or regulation. If there is a discrepancy between EPA's  
14 QAPP data and the Respondents' QAPP data, EPA will, upon the request of Respondents, make the raw  
15 data that was subject to the quality assurance resulting in such a discrepancy available to Respondents.

16 2. Respondents shall orally notify EPA at least fifteen (15) days prior to conducting  
17 significant field events as described in the SOW, work plans, or SAPs. At EPA's oral or written request,  
18 or the request of EPA's oversight assistant, Respondents shall allow split or duplicate samples to be taken  
19 by EPA (and/or its authorized representatives) of any samples collected by Respondents in implementing  
20 this Order. All split samples of Respondents shall be analyzed by the methods identified in the QAPP.

21 3. At all reasonable times EPA, its authorized representatives, DEQ and its  
22 authorized representatives, and designated representatives of Tribes and Natural Resource Trustees  
23 accompanied by EPA shall have the authority to enter and freely move about all property over which  
24 Respondents have possession or control at the Site where work, if any, is to be carried out pursuant to  
25 this Order. EPA and DEQ and their authorized representatives shall also have full access for the  
26 purposes of inspecting conditions, activities, the results of activities, records, operating logs, and  
27 contracts related to this Order; reviewing the progress of the Respondents in carrying out the terms of  
28 this Order; conducting tests as EPA or its authorized representatives deem necessary; using a camera,  
29 sound recording device, or other documentary type equipment to record matters related to this Order;  
30 and verifying the data developed pursuant to this Order and submitted to EPA by Respondents.  
31 Respondents shall allow EPA and DEQ and their authorized representatives to inspect and copy all  
32 records, files, photographs, documents, sampling and monitoring data, and other writings related to  
33 work undertaken in carrying out this Order. Nothing herein shall be interpreted as limiting or affecting  
34 the United States' right of entry or inspection authority under federal law. Nothing in this Section shall  
35 alter existing access provisions within voluntary agreements between any Respondent and DEQ, which  
36 provisions shall continue to govern access for DEQ as Lead Agency for work conducted under those  
37 voluntary agreements and shall not govern access for DEQ as a Support Agency under this Order. EPA  
38 shall make reasonable efforts to avoid interfering with Respondents' business activities when present at  
39 Respondents' properties. All parties with access to the Site under this paragraph shall comply with all  
40 approved Health and Safety Plans applicable to the property, as well as applicable laws and regulations.  
41 Tribes and their authorized representatives shall be permitted reasonable access to Respondents'  
42 properties at the Site without EPA accompaniment as described in an approved work plan for the  
43 Cultural Resource Analysis described in the SOW.

44 4. Respondents may assert a claim of business confidentiality covering part or all of  
45 the information submitted to EPA pursuant to the terms of this Consent Order under 40 C.F.R. 2.203,

1 provided such claim is allowed by Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7). This claim  
2 shall be asserted in the manner described by 40 C.F.R. 2.203(b), and substantiated at the time the claim  
3 is made. Information determined to be confidential by EPA will be given the protection specified in  
4 40 C.F.R. Part 2. If no such claim accompanies the information when it is submitted to EPA, it may be  
5 made available to the public by EPA or DEQ without further notice to Respondents. Respondents agree  
6 not to assert business confidentiality claims with respect to any data related to Site conditions, sampling,  
7 or monitoring.

8 5. By entering into this Order, Respondents waive any objections in any proceeding  
9 by EPA to any data gathered, generated, or evaluated by EPA, DEQ, or Respondents in the performance  
10 or oversight of the work that has been verified according to the quality assurance/quality control  
11 (QA/QC) procedures required by the Consent Order. If Respondents object to any other data relating to  
12 the RI/FS, Respondents shall submit a report to EPA that identifies and explains its objections, describes  
13 the acceptable uses of the data, if any, and identifies any limitations to the use of the data. The report  
14 must be submitted to EPA within thirty (30) days of the monthly progress report containing the data.

15 6. If the Site, or any off-Site area that is to be used for access for purposes of  
16 implementing this Order, is owned in whole or in part by parties other than those bound by this Consent  
17 Order, Respondents will obtain, or use best efforts to obtain Site access agreements from the present  
18 owner(s) within ninety (90) days from the date EPA determines that access is needed. Such agreements  
19 shall provide access for EPA, its contractors and oversight officials, DEQ and its contractors, the  
20 designated representatives of the Tribes and Natural Resource Trustees accompanied by EPA, and  
21 Respondents or their authorized representatives, and such agreements shall specify that Respondents are  
22 not EPA, DEQ's, Tribes' or Natural Resource Trustees' representative with respect to liability associated  
23 with Site activities. Copies of such agreements shall be submitted to EPA prior to Respondents' initiation  
24 of field activities. Respondents' best efforts shall include providing reasonable compensation to any off-  
25 Site property owner, unless such owner qualifies as a potentially responsible party under Section 107(a)  
26 of CERCLA. If access agreements are not obtained within the time referenced above, Respondents shall  
27 immediately notify EPA of their failure to obtain access and EPA and Respondents will discuss a  
28 strategy for gaining access to such properties in the most expeditious and cost effective manner. EPA  
29 may obtain access for Respondents or perform those tasks or activities with EPA contractors. If EPA  
30 performs those tasks or activities with EPA contractors, Respondents shall perform all other activities not  
31 requiring access to that portion of the Site, and shall reimburse EPA for all costs incurred in accordance  
32 with this Order, which are not inconsistent with the NCP in performing such activities. Respondents  
33 shall integrate the results of any such tasks undertaken by EPA into its reports and deliverables.  
34 Respondents also agree to indemnify the United States as specified in Section XXIV of this Order.

#### 35 36 **VIII.DESIGNATED PROJECT COORDINATORS**

37 1. Deliverables submitted under this Consent Order, shall be sent by certified mail,  
38 return receipt requested, to the following addressees or to any other addressees which EPA may  
39 designate in writing:

- 40 (a) five copies to EPA:  
41 Wallace Reid  
42 EPA Project Coordinator,  
43 U.S. Environmental Protection Agency  
44 1200 Sixth Avenue, M/S ECL-115  
45 Seattle, WA 98101

1 ph: 206-553-1728  
2 fax: 206-553-0124  
3 [reid.wallace@epa.gov]  
4

5 (b) one copy to DEQ:

6 Eric Blischke  
7 Oregon DEQ  
8 2020 SW 4th Ave. #400  
9 Portland, OR 97201  
10 ph: 503-229-5648  
11 fax: 503-229-6899  
12 [blischke.eric@deq.state.or.us]  
13

14 (c) one copy to Oregon Department of Fish & Wildlife:

15 Rick Kepler  
16 Oregon Department of Fish & Wildlife  
17 2501 SW First Ave.  
18 Portland, OR 97207  
19 ph: 503-872-5255 x.5426  
20 fax: 503-872-5269  
21 [rick.j.kepler@state.or.us]  
22

23 (d) one copy to NOAA:

24 Helen Hillman  
25 NOAA Resources Coordinator  
26 c/o EPA Region 10  
27 1200 Sixth Avenue (M/S ECL-117)  
28 Seattle, WA 98101  
29 ph: 206-553-2101  
30 fax: 206-553-0124  
31 [hillman.helen@noaa.gov]  
32

33 (e) one copy to the U.S. Department of Interior

34 Preston Sleeper  
35 Regional Environmental Officer  
36 Pacific Northwest Region  
37 500 NE Multnomah St.  
38 Suite 356  
39 Portland, OR 97232  
40 ph: 503-321-6157  
41 fax: 503-231-2361

[preston\_sleeper@ios.doi.gov]

(f) one copy to the Confederated Tribes of the Warm Springs Reservation of Oregon

Brad Nye  
Natural Resources Department  
P.O. Box C  
Warm Springs, OR 97761  
ph: 541-553-2041  
fax: 541-553-1994  
[bnye@wstribes.org]

(g) one copy to the Confederated Tribes and Bands of the Yakama Nation:

Lynn Hatcher  
Yakama Nation  
Fisheries Management Program  
P.O. Box 151  
4690 SR 22  
Toppenish, WA 98948  
ph: 509-865-6262  
fax: 509-865-6293  
[lynn@yakama.com]

(h) one copy to the Confederated Tribes of the Grand Ronde Community of Oregon:

Kathleen Feehan  
Confederated Tribes of the Grand Ronde Community of Oregon  
47010 SW Hebo Road  
Grand Ronde, OR 97347  
ph: 503-879-2395  
fax: 503-879-5622  
[kathleen.feehan@grandronde.org]

(i) one copy to the Confederated Tribes of the Siletz Indians:

Tom Downey  
Environmental Specialist  
Confederated Tribes of the Siletz Indians  
P.O. Box 549  
Siletz, OR 97380  
ph: 541-444-8226  
fax: 541-444-9688

[tomd@ctsi.nsn.us]

(j) one copy to the Confederated Tribes of the Umatilla Indian Reservation:

Audie Huber  
Confederated Tribes of the Umatilla Indian Reservation  
Department of Natural Resources  
73239 Confederated Way  
Pendelton, OR 97801  
ph: 541-966-2334  
fax: 503-276-3317  
[audiehuber@ctuir.com]

(k) one copy to the Nez Perce Tribe:

Patti Howard  
Water Resources Division  
Nez Perce Tribe  
P.O. Box 365  
Lapwai, ID 83540  
ph: 208-843-7368  
fax: 208-843-7371  
[pattih@nezperce.org]

(l) one copy each to Respondents' Co-Project Coordinators

Robert Wyatt  
Northwest Natural  
220 NW Second Avenue  
Portland, OR 97209  
ph: 503-226-4211 x5425  
fax: 503-273-4815  
[rjw@nwnatural.com]

Trey Harbert  
Port of Portland  
P.O. Box 3529  
Portland, OR 97208  
ph: 503-944-7325  
fax: 503-944-7354  
[harbet@portptld.com]

2. On or before the effective date of this Order, EPA and Respondents shall each designate their own Project Coordinator. Each Project Coordinator shall be responsible for overseeing the implementation of this Consent Order. To the maximum extent possible, written communications between Respondents and EPA shall be directed to the Project Coordinator by mail or electronic mail, with copies to such other persons as EPA may designate.

3. EPA and Respondents have the right to change their respective Project Coordinator upon at least ten (10) days notice in writing prior to the change.

4. EPA's Project Coordinator shall have the authority lawfully vested in a Remedial Project Manager (RPM) and On-Scene Coordinator (OSC) by the NCP. EPA's Project Coordinator shall have the authority consistent with the NCP, to halt any work required by this Consent Order, and to take any necessary response when he or she determines that conditions at the Site may present an immediate endangerment to public health or welfare or the environment. The absence of the EPA Project Coordinator from the Site pursuant to this Consent Order shall not be cause for the stoppage or delay of any work.

5. EPA shall arrange for a qualified person to assist in its oversight and review of the conduct of the RI/FS, as required by Section 104(a) of CERCLA, 42 U.S.C. § 9604(a). The oversight assistant may observe work and make inquiries in the absence of EPA, but is not authorized to modify any approved deliverable.

#### **IX. OTHER APPLICABLE LAWS**

1. Respondents shall comply with all applicable laws and regulations in implementing this Order. No local, state, or federal permit shall be required for any portion of any action conducted entirely on-Site, including studies, where such action is selected and carried out in compliance with Section 121 of CERCLA, 42 U.S.C. § 9621.

#### **XVII. RECORD PRESERVATION**

1. All records and documents in Respondents', their employees', contractors', consultants', agents', accountants', or attorneys' possession, whether they have been submitted to EPA or not, that concern the implementation of this Order, including those documents relevant to the performance of Task 2.a. of the SOW (Data Compilation/Site Background), and/or those documents related to the release or threatened release of hazardous substances, pollutants, or contaminants to the sediments in the Lower Willamette River, shall be preserved during the conduct of this Consent Order and for a minimum of ten (10) years after the completion of remedial action at the Site, unless permission has been sought and obtained in writing from EPA and DEQ prior to destruction of such documents. Respondents reserve the right to claim the attorney-client privilege and/or attorney work product immunity in accordance with FRCP 26, for such documents, and EPA reserves the right to challenge any such claims by Respondents. After this 10-year period, Respondents shall notify EPA and DEQ at least ninety (90) days before the documents are scheduled to be destroyed. If EPA or DEQ requests that the documents be saved, Respondents shall, at no cost to EPA or DEQ, give the requesting agency the documents or copies of the documents.

## **XVIII. DISPUTE RESOLUTION**

1  
2 1. Any disputes concerning activities or deliverables required under this Order may  
3 be resolved as follows: If Respondents object to any EPA notice of disapproval or requirement made  
4 pursuant to this Consent Order, Respondents shall notify the EPA Project Coordinator in writing of their  
5 objection(s) within fourteen (14) days of receipt of the disapproval notice or requirement. Respondents'  
6 written objection(s) shall define the dispute, state the basis of Respondents' objection(s), and be sent  
7 certified mail, return receipt requested. EPA and Respondents then have an additional fourteen (14)  
8 days from Respondents' receipt of the return receipt to reach agreement. If an agreement is not reached  
9 within fourteen (14) days, Respondents may request a determination by EPA's Environmental Cleanup  
10 Office (ECL) Director. The ECL Director's determination is EPA's final decision. Respondents shall  
11 proceed in accordance with EPA's final decision regarding the matter in dispute, regardless of whether  
12 Respondents agree with the decision. If Respondents do not agree to perform or do not actually perform  
13 the work in accordance with EPA's final decision, EPA reserves the right in its sole discretion to  
14 conduct the work itself, to seek reimbursement from Respondents, to seek enforcement of the decision,  
15 to seek penalties, and/or to seek any other appropriate relief.

16 2. Respondents are not relieved of any obligations to perform and conduct activities  
17 and submit deliverables on the schedule set forth in the SOW or work plan, while a matter is pending in  
18 dispute resolution. The invocation of dispute resolution does not stay stipulated penalties under this  
19 Order.  
20

## **XIX. DELAY IN PERFORMANCE/STIPULATED PENALTIES**

21  
22 1. Unless there is a Force Majeure event as defined in Section  
23 XX below, for each day that Respondents fail to complete a deliverable in a  
24 timely manner or fail to produce a deliverable of acceptable quality, or otherwise  
25 fail to perform in accordance with the requirements of this Order, Respondents  
26 shall be liable for stipulated penalties. DEQ may identify a violation of the Order  
27 and recommend to EPA that EPA impose stipulated penalties for such violation.  
28 Penalties begin to accrue on the day that performance is due or a violation occurs,  
29 and extend through the period of correction. Where a revised submission by  
30 Respondents is required, stipulated penalties shall continue to accrue until a  
31 satisfactory deliverable is produced. EPA will provide written notice for  
32 violations that are not based on timeliness; nevertheless, penalties shall accrue  
33 from the day a violation commences. EPA may, at its discretion, waive  
34 imposition of stipulated penalties if it determines that Respondents have  
35 attempted in good faith to comply with this Order, or have timely cured defects in  
36 initial submissions. Payment shall be due within thirty (30) days of receipt of a  
37 demand letter from EPA, unless otherwise agreed to by EPA.

38 2. Unless EPA has agreed to a longer period of time for payment pursuant to  
39 paragraph 1, above, Respondents shall pay interest on the unpaid balance, which shall begin to accrue at  
40 the end of the 30-day period, at the rate established by the Department of Treasury pursuant to 30 U.S.C.  
41 § 3717. Respondents shall further pay a handling charge of one percent (1%), to be assessed at the end  
42 of each thirty-one (31) day period, and a six percent (6%) per annum penalty charge, to be assessed if  
43 the penalty is not paid in full within ninety (90) days after it is due.

44 3. Respondents shall make all payments by check to: U.S. Environmental  
45 Protection Agency, Superfund Accounting, P.O. Box 360903M, Pittsburgh, Pennsylvania 15251.

1 Checks should identify the name of the Site, the Site identification number, the account number and the  
2 title of this Order. A copy of the check and/or transmittal letter shall be forwarded to the EPA Project  
3 Coordinator.

4 4. For the following deliverables, stipulated penalties shall accrue in the amount of  
5 \$500 per day, per violation, for the first seven days of noncompliance; \$1,000 per day, per violation, for  
6 the 8th through 14th day of noncompliance; \$2,500 per day, per violation, for the 15th day through the  
7 30th day; and \$5,000 per day per violation for the 30th day through the 90th day.

8 a) An original and any revised deliverables and/or work products described in the  
9 Stipulation and Agreement.

10 b) An original and any revised RI/FS work plan, including addenda.

11 c) An original and any revised SAP.

12 d) An original and any revised Site health & safety plan.

13 e) An original and any revised RI report.

14 f) An original and any revised treatability statement of work.

15 g) An original and any revised treatability testing work plan.

16 h) An original and any revised treatability study sampling & analysis plan.

17 i) An original and any revised treatability study health & safety plan.

18 j) An original and any revised risk assessment scoping memorandum; the original  
19 risk assessment scoping memorandum shall be the version submitted in response to EPA's first round of  
20 comments on Respondents' draft memorandum submitted to EPA pursuant to this Order within 120  
21 days after the effective date.

22 k) An original and any revised FS report.

23 l) An original and any revised baseline risk assessment report.

24 5. For the following interim deliverables, stipulated penalties shall accrue in the  
25 amount of \$250 per day, per violation, for the first week of noncompliance; \$500 per day, per violation,  
26 for the 8th through 14th day of noncompliance; \$1,500 per day, per violation, for the 15th day through  
27 the 30th day of noncompliance; and \$2,500 per day per violation for the 30th day through the 90th day  
28 of noncompliance.

29 a) An original and any revised Data Quality Objectives submitted with the RI/FS  
30 work plan for the ISA and adjacent areas, including addenda.

31 b) An original and any revised completed Site relational database.

32 c) An original and any revised data gaps table submitted with the RI/FS work plan  
33 described in subparagraph B. Task 2.ii.f, above, including addenda.

34 d) An original and any revised Site trip report submitted with the RI/FS work plan  
35 described in subparagraph B. Task 2.ii.f, above, including addenda.

36 e) An original and any revised preliminary analytical goals submitted with the RI/FS  
37 work plan described in subparagraph B. Task 2.ii.f, above, including addenda.

38 f) An original and any revised preliminary CSM submitted with the RI/FS work  
39 plan described in subparagraph B. Task 2.ii.f, above, including addenda.

40 g) An original and any revised technical memorandum identifying potential criteria  
41 for identification of candidate early action areas, and any deliverable using these criteria to identify  
42 areas that may be candidates for early action.

43 h) An original and any revised technical memorandum on modeling of Site  
44 characteristics submitted with the RI/FS work plan described in subparagraph B. Task 2.ii.f, above,  
45 including addenda.



- 1 i) An original and any revised Site characterization summary.  
2 j) An original and any revised identification of candidate technologies  
3 memorandum.  
4 k) An original and any revised technical memorandum  
5 identifying preliminary RAOs.  
6 l) An original and any revised technical memorandum  
7 describing process(es) to identify and obtain disposal site options for  
8 contaminated sediment.  
9 m) An original and any revised technical  
10 memorandum identifying potential sources of sediment capping materials  
11 and/or outlining testing requirements needed to evaluate the acceptability  
12 of any such material.  
13 n) An original and any revised technical memorandum  
14 identifying the data to evaluate natural attenuation options.  
15 o) An original and any revised treatability testing evaluation report.  
16 p) An original and any revised treatability study evaluation report.  
17 q) An original and any revised Site-specific remedial action objectives refined and  
18 documented pursuant to this Order (due ninety (90) days after Respondents' receipt of EPA's comments  
19 on the draft RI report).  
20 r) Memoranda on development and preliminary screening of alternatives, assembled  
21 alternatives screening results, and final screening.  
22 s) Comparative analyses of remedial alternatives report.  
23 t) An original and any revised cultural resource analysis.  
24 6. For the monthly progress reports, stipulated penalties shall accrue in the amount  
25 of \$200 per day, per violation, for the first week of noncompliance; \$500 per day, per violation, for the  
26 8th through 14th day of noncompliance; \$1,000 per day, per violation, for the 15th day through the 30th  
27 day; and \$2,000 per day, per violation, for the 30th day through the 90th day. Stipulated penalties for  
28 monthly progress reports shall not accrue during the first two hundred ten (210) days after the effective  
29 date of this Order.  
30 7. Respondents may dispute EPA's right to the stated amount of penalties by  
31 invoking the dispute resolution procedures under Section XVIII herein. Penalties may, at EPA's  
32 discretion, accrue, but need not be paid, during the dispute resolution period. If Respondents do not  
33 prevail upon resolution, all penalties shall be due to EPA within thirty (30) days of resolution of the  
34 dispute, unless otherwise agreed to by EPA. If Respondents prevails upon resolution, no penalties shall  
35 be paid.  
36 8. If EPA requires corrections to be reflected in the next deliverable and does not  
37 require resubmission of that deliverable, stipulated penalties for that interim deliverable shall cease to  
38 accrue on the date of such decision by EPA.  
39 9. The stipulated penalties provisions do not preclude EPA from pursuing any other  
40 remedies or sanctions which are available to EPA because of Respondents' failure to comply with this  
41 Consent Order, including, but not limited to, conduct of all or part of the RI/FS by EPA. Payment of  
42 stipulated penalties does not alter Respondents' obligation to complete performance under this Consent  
43 Order.  
44 10. Respondents are each jointly and severally liable to comply with this Order.  
45 Failure to comply by one Respondent does not excuse performance by any other Respondents.

## XX.FORCE MAJEURE

1. "Force Majeure," for purposes of this Consent Order, is defined as any event arising from causes ~~entirely~~ beyond the control of Respondents and of any entity controlled by Respondents, including their contractors and subcontractors, that delays the timely performance of any obligation under this Consent Order notwithstanding Respondents' best efforts to avoid the delay. The requirement that the Respondents exercise "best efforts to avoid the delay" includes using best efforts to anticipate any potential Force Majeure event and best efforts to address the effects of any potential Force Majeure event (1) as it is occurring, and (2) following the potential Force Majeure event, such that the delay is minimized to the greatest extent practicable. Examples of events that are not Force Majeure events include, but are not limited to, increased costs or expenses of any work to be performed under this Order or the financial difficulty of Respondents to perform such work.

2. If any event occurs or has occurred that may delay the performance of any obligation under this Order, whether or not caused by a Force Majeure event, Respondents shall notify, by telephone, the EPA RPM or, in his or her absence, the ECL Director, within forty-eight (48) hours of when Respondents knew or should have known that the event might cause a delay. Within seven (7) business days thereafter, Respondents shall provide, in writing, the reasons for the delay, the anticipated duration of the delay, all actions taken or to be taken to prevent or minimize the delay, a schedule for implementation of any measures to be taken to mitigate the effect of the delay, and a statement as to whether, in the opinion of Respondents, such event may cause or contribute to an endangerment to public health, welfare, or the environment. Respondents shall exercise best efforts to avoid or minimize any delay and any effects of a delay. Failure to comply with the above requirements shall preclude Respondents from asserting any claim of Force Majeure.

3. If EPA agrees that the delay or anticipated delay is attributable to Force Majeure, the time for performance of the obligations under this Order that are directly affected by the Force Majeure event shall be extended by written agreement of the parties, for a period of time not to exceed the actual duration of the delay caused by the Force Majeure event. An extension of the time for performance of the obligation directly affected by the Force Majeure event shall not extend the time for performance of any subsequent obligation.

4. If EPA does not agree that the delay or anticipated delay has been or will be caused by a Force Majeure event, or does not agree with Respondents on the length of the extension, the issue shall be subject to the dispute resolution procedures set forth in Section XVII of this Order. In any such proceeding, to qualify for a Force Majeure defense, Respondents shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a Force Majeure event, that the duration of the delay was or will be warranted under the circumstances, that Respondents did exercise or are exercising due diligence by using their best efforts to avoid and mitigate the effects of the delay, and that Respondents complied with the requirements of this Section.

5. Should Respondents carry the burden set forth in the preceding paragraph, the delay at issue shall be deemed not to be a violation of the affected obligation of this Consent Order.

## **X.RESERVATIONS OF RIGHTS**

1  
2 1. EPA reserves the right to bring an action against Respondents under Section 107  
3 of CERCLA, 42 U.S.C. § 9607, for recovery of all response costs including oversight costs, incurred by  
4 the United States, and by DEQ as support agency, for activities relating to this RI/FS, at the Site that are  
5 not reimbursed by Respondents, any costs incurred if EPA performs the RI/FS or any part thereof, and  
6 any future costs incurred by the United States in connection with response activities conducted under  
7 CERCLA at the Site. Respondents reserve all rights consistent with this Order to defend against any  
8 such action. EPA will not bring an action against Respondents to recover response costs incurred prior  
9 to January 26, 2001 while this Consent Order is in effect.

10 2. EPA reserves the right to bring an action against Respondents to enforce the  
11 response and oversight cost reimbursement requirements of this Consent Order, to collect stipulated  
12 penalties assessed pursuant to this Consent Order, and to seek penalties pursuant to Section 109 of  
13 CERCLA, 42 U.S.C. § 9609. Respondents reserve all rights consistent with this Order to defend against  
14 any such action by EPA, though Respondents waive any defenses to such actions on the basis of claim-  
15 splitting or any applicable statute of limitations or laches while this Consent Order is in effect.

16 3. EPA or Respondents' failure to specifically reserve a particular right herein shall  
17 not be construed as a waiver of that right. Except as expressly provided in this Order, each party  
18 reserves all rights and defenses it may have. Nothing in this Consent Order shall affect EPA's removal  
19 authority or EPA's response or enforcement authorities including, but not limited to, the right to seek  
20 injunctive relief, stipulated penalties, statutory penalties, and/or punitive damages.

21 4. Following satisfaction of the requirements of this Consent Order, Respondents  
22 shall have resolved their liability to EPA for the work performed by Respondents pursuant to this  
23 Consent Order. Respondents are not released from liability, if any, for any response actions taken  
24 beyond the scope of this Order regarding removals, other operable units, remedial design/remedial  
25 action, or activities arising pursuant to Section 121(c) of CERCLA, 42 U.S.C. § 9621(c).

26 5. Respondents reserve the right to claim the attorney-client privilege and/or  
27 attorney work product immunity in accordance with FRCP 26, for documents, and EPA reserves the  
28 right to challenge any such claim by Respondents.

29 6. EPA recognizes that Respondents are entering into this Order notwithstanding  
30 that contamination at the Site may have been caused by entities other than Respondents. In actions  
31 concerning the Site, EPA agrees to apply the EPA Orphan Policy, Attachment C hereto.

## **XXII. REIMBURSEMENT OF EPA RESPONSE COSTS**

33  
34 1. Following the issuance of this Consent Order, EPA shall submit an accounting to  
35 Respondents on a periodic basis of all response and oversight costs incurred by the United States in the  
36 implementation and oversight of this Order. Such response costs may include, but are not limited to,  
37 costs incurred by the United States in overseeing Respondents' implementation of the requirements of  
38 this Consent Order and activities performed by the United States as part of this RI/FS, including any  
39 costs incurred to obtain access for Respondents pursuant to this Consent Order, in connection with  
40 preparation of the risk assessment for the site, and for community relations activities for this RI/FS.  
41 However, where consistent with any access strategy developed by the parties pursuant to Section XIV.6,  
42 EPA may, in its discretion, use its enforcement authority to obtain access and seek cost recovery from  
43 any party who denies access. Costs shall include all direct and indirect costs, including, but not limited  
44 to, time and travel costs of EPA personnel and associated indirect costs, coordination between DEQ and  
45 EPA regarding uplands source identification and control and in-water investigation, contractor costs,

1 cooperative agreement costs, compliance monitoring, including the collection and analysis of split  
2 samples, inspection of RI/FS activities, site visits, discussions regarding disputes that may arise as a  
3 result of this Consent Order, review and approval or disapproval of reports, and costs incurred by EPA  
4 of redoing any of Respondents' tasks. Any necessary summaries, including, but not limited to EPA's  
5 certified Agency Financial Management System summary data (SCORES Reports), or such other  
6 summary as certified by EPA, shall serve as basis for payment demands. However, Respondents may  
7 review the following underlying EPA oversight cost documentation: EPA personnel time sheets, travel  
8 authorizations and vouchers; EPA contractor monthly invoices; and all applicable contract laboratory  
9 program (CLP) invoices. Costs reimbursable under this Order shall not include costs incurred prior to  
10 January 26, 2001.

11 2. Respondents shall, within 30 days of receipt of each accounting, remit a certified  
12 or cashier's check for the amount of the costs set forth in the accounting. If payment of such costs is not  
13 made within 30 days of receipt of the accounting, interest shall accrue from the date of receipt of the  
14 accounting through the date of payment. The interest rate is the rate of interest on investments for the  
15 Hazardous Substances Superfund in section 107(a) of CERCLA, compounded annually on October 1.

16 3. Checks shall be made payable to the Hazardous Substances Superfund and should  
17 include the name of the site, the site identification number (103R), and the title of this Consent Order.  
18 Checks shall be forwarded to: Mellon Bank, EPA-Region 10, Superfund Accounting, P.O. Box  
19 360903M, Pittsburgh, PA 15251.

20 4. Copies of the transmittal letter and check should be sent simultaneously to the  
21 EPA Project Coordinator.

22 5. Respondents agree to limit any disputes concerning costs to accounting errors and  
23 the inclusion of costs outside the scope of this Consent Order, including, but not limited to, costs for  
24 work which is inconsistent with this Order. Respondents shall identify any contested costs and the basis  
25 of their objection. All undisputed costs shall be remitted by Respondents in accordance with the  
26 schedule set forth above. Disputed costs shall be paid by Respondents into an escrow account while the  
27 dispute is pending. Respondents bear the burden of establishing an EPA accounting error or the  
28 inclusion of costs outside the scope of this Order, or that such costs do not meet the standard for  
29 recovery of costs set forth in Section 107(a)(4)(A) of CERCLA.

### 30 **XXIII.REIMBURSEMENT OF DEQ RESPONSE COSTS**

31 1. Following the issuance of this Consent Order, DEQ will submit an accounting to  
32 Respondents on a monthly basis of all Support Agency oversight costs incurred by DEQ in  
33 implementation and oversight of this Order. Respondents shall pay all direct and indirect Support  
34 Agency costs incurred by DEQ consistent with this Consent Order, including but not limited to DEQ's  
35 costs of coordinating with EPA regarding uplands source identification and control and in-water  
36 investigations, identifying state ARARs and reviewing data and documents in relation to state ARARs,  
37 including but not limited to ORS 465 and state laws pertaining to releases of petroleum. Respondents  
38 are not responsible under this Order for DEQ's Lead Agency response costs incurred in conducting or  
39 overseeing site assessments and RI/FSs pursuant to ORS Chapter 465, which include source  
40 identification and source control. Respondents shall not be obligated to pay under this Order any  
41 assessment under ORS 465.333, although DEQ may continue to recover such assessments under its  
42 negotiated cost recovery agreements or, where applicable, through other independent legal means.  
43 Costs reimbursable under this Order shall not include costs incurred prior to January 26, 2001.  
44

2. Respondents shall, within 30 days of receipt of each DEQ invoice, remit a check payable to "State of Oregon, Hazardous Substance Remedial Action Fund", mailed to Oregon Department of Environmental Quality, Accounting, 811 S.W. Sixth Ave., Portland, OR 97204. Respondents shall pay simple interest of 9% per annum on the balance of any unpaid DEQ costs, which interest shall begin to accrue at the end of the 30-day payment period.

3. DEQ invoices will include a summary of costs billed to date. Upon request to DEQ, Respondents may review underlying documentation including but not limited to: DEQ personnel time sheets; travel authorizations and vouchers; DEQ contractor monthly invoices; and all applicable laboratory invoices. Respondents agree to limit any disputes concerning costs to accounting errors and the inclusion of costs outside the scope of this Consent Order, including, but not limited to, costs for work which is inconsistent with this Order. Respondents shall identify any contested costs and the basis for their objection. All undisputed costs shall be remitted by Respondents in accordance with the schedule set forth above. Respondents bear the burden of establishing a DEQ accounting error or the inclusion of costs outside the scope of this Order, or that such costs do not meet the standard for recovery of costs set forth in ORS 465.200(23).

#### **XXIVDISCLAIMER**

1. In entering into this Consent Order, Respondents neither admit nor deny EPA's Findings of Fact and Conclusions of Law. Respondents' participation in this Order shall not be considered an admission of liability and is not admissible in evidence against Respondents in any judicial or administrative proceeding other than a proceeding by the United States, including EPA, to enforce this Consent Order or a judgment relating to it. Respondents retain their rights to assert claims against other potentially responsible parties at the Site. However, Respondents agree not to contest the validity or terms of this Order, or the procedures underlying or relating to it in any action brought by the United States, including EPA, to enforce this Order.

#### **XXV. OTHER CLAIMS**

1. In entering into this order, Respondents also waive any right to seek reimbursement under Section 106(b) of CERCLA, 42 U.S.C. §9606(b). Respondents also waive any right to present a claim under Section 111 or 112 of CERCLA, 42 U.S.C. §§ 9611 or 9612. This Order does not constitute any decision on preauthorization of funds under Section 111(a)(2) of CERCLA, 42 U.S.C. § 9611(a)(2). Respondents further waive all other statutory and common law claims against EPA relating to or arising out of conduct of the RI/FS, including, but not limited to, contribution and counterclaims.

2. Nothing in this Order shall constitute or be construed as a release from any claim, cause of action, or demand in law or equity against any person, firm, partnership, subsidiary, or corporation not a signatory to this Consent Order for any liability it may have arising out of, or relating in any way to, the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous substances, pollutants, or contaminants found at, taken to, or taken from the Site. If any Section or portion of this Order is invalidated for any reason, all remaining Sections or portions shall remain in full force and effect.

## XXVI. FINANCIAL ASSURANCE/INSURANCE/INDEMNIFICATION

1. Respondents shall establish and maintain a financial instrument or trust account or other financial mechanism acceptable to EPA, including a demonstration that one or more of the Respondents satisfy the requirements of 40 C.F.R. 264.143(f) to perform the work and any other obligations required under this Consent Order, including a margin for cost overruns. Within forty-five (45) days after the effective date of this Consent Order, Respondents shall make the demonstration or fund the financial instrument or trust account sufficiently to perform the work required under this Consent Order projected for the period beginning with the effective date of the Order through December 31, 2001. Beginning January 1, 2002, and on or before the 15th day of January of each calendar year thereafter, Respondents shall make the demonstration or fund the financial instrument or trust account sufficiently to perform the work and other activities required under this Order projected for the succeeding calendar year quarter.

2. To the extent that financial assurance is provided by financial instrument or trust account, if at any time the net worth of the financial instrument or trust account is insufficient to perform the work and other obligations under this Order for the upcoming quarter, Respondents shall provide written notice to EPA within seven (7) days after the net worth of the financial instrument or trust account becomes insufficient. The written notice shall describe why the financial instrument or trust account is funded insufficiently and explain what actions have been or will be taken to fund the financial instrument or trust account adequately.

3. (a) Prior to commencement of any work under this Order, Respondents shall either make the demonstration required in paragraph 3(d) below, or shall secure, and shall maintain in force for the duration of this Order, and for two (2) years after the completion of all activities required by this Consent Order the following insurance policies naming the United States as an additional insured:

i. Comprehensive General Liability (CGL) in the amount of at least \$1 million combined single limit, \$2 million aggregate, including Contractual Liability Insurance in the amount of one million dollars per occurrence;

ii. Automobile insurance, with limits of \$1 million, combined single limit,

and

iii. Umbrella Liability Insurance in excess of CGL and automobile liability coverage in the amount of \$5 million per occurrence.

(a) Respondents shall also either make the demonstration required in paragraph 3(d) below or shall secure, and maintain in force for the duration of this Order and for two (2) years after the completion of all activities required by this Consent Order the following:

i. Professional Errors and Omissions Insurance in the amount of at least two million dollars per occurrence.

1                   ii.       Pollution Liability Insurance in the amount of at least two million dollars  
2 per occurrence, covering as appropriate both general liability and professional liability arising from  
3 pollution conditions.

4                   (c)       For the duration of this order, Respondents shall satisfy, or shall ensure  
5 that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the  
6 provision of employer's liability insurance and workmen's compensation insurance for all persons  
7 performing work on behalf of the Respondents, in furtherance of this Order.

8                   (d)       If Respondents demonstrate by evidence satisfactory to EPA that any  
9 contractor or subcontractor maintains insurance equivalent to that described above, or insurance  
10 covering the same risks but in a lesser amount, then with respect to that contractor or subcontractor  
11 Respondents need provide only that portion of the insurance described above which is not maintained by  
12 the contractor or subcontractor.

13                   (e)       Prior to commencement of any work under this Order, and annually  
14 thereafter on the anniversary of the effective date of this Order, Respondents shall provide certificates of  
15 such insurance and a copy of each insurance policy to EPA.

16                   4.       At least seven (7) days prior to commencing any work under this Consent Order,  
17 Respondents shall certify to EPA that the required insurance has been obtained by that contractor.

18                   5.       Respondents agree to indemnify and hold the United States, its agencies,  
19 departments, agents, and employees harmless from any and all claims or causes of action arising from or  
20 on account of acts or omissions of Respondents, their employees, agents, servants, receivers, successors,  
21 assignees, or any persons including, but not limited to, firms, corporations, subsidiaries, and contractors,  
22 in carrying out activities under this Consent Order. The United States or any agency or authorized  
23 representative of the United States shall not be held as a party to any contract entered into by  
24 respondents in carrying out activities under this Consent Order.

## 25 26                   **XXVII. EFFECTIVE DATE AND SUBSEQUENT MODIFICATIONS**

27                   1.       The effective date of this Consent Order shall be the date it is signed by EPA.

28                   2.       This Consent Order may be amended by mutual agreement of EPA and  
29 Respondents. Amendments shall be in writing and shall be effective when signed by EPA's delegated  
30 authority. EPA Project Coordinators may adjust schedules but do not have the authority to sign  
31 amendments to this Consent Order.

32                   3.       No informal advice, guidance, suggestions, or comments by EPA regarding  
33 reports, plans, specifications, schedules, and any other writing submitted by Respondents will be  
34 construed as relieving Respondents of their obligation to obtain such formal approval as may be  
35 required by this Order. Any deliverables, plans, technical memoranda, reports (other than progress  
36 reports), specifications, schedules, and attachments required by this Consent Order or EPA are  
37 incorporated into this Order upon approval by EPA.

## 38 39                   **XXXVIII. TERMINATION AND SATISFACTION**

40                   1.       This Consent Order shall terminate when Respondents demonstrate, in writing,  
41 and certify to the satisfaction of EPA that all activities required under this Consent Order, as amended  
42 by any modifications, including any additional work, payment of oversight costs, and any stipulated  
43 penalties demanded by EPA, have been performed and EPA has approved the certification. This notice  
44 shall not, however, terminate Respondents' obligation to comply with Sections XVII and XXII of this  
45 Consent Order.

1           2.       The certification shall be signed by a responsible official representing each  
2 Respondent. Each representative shall make the following attestation: "I certify under penalty of  
3 perjury under the laws of the United States that the information contained in or accompanying this  
4 certification is true, accurate, and complete." For purposes of this Consent Order, a responsible official  
5 is a corporate official who is in charge of a principal business function.  
6

7           Issued this \_\_\_\_\_ day of \_\_\_\_\_, 2001

8           U.S. EPA, Region X, Office of Environmental Cleanup  
9

10          BY: \_\_\_\_\_

11               Amber L. Wong, Manager, Site Assessment & Cleanup Unit  
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# Statement of Work

## Remedial Investigation/Feasibility Study (RI/FS) & Identification of Potential Early Action Areas for the Portland Harbor Superfund Site

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## **Section 1: Introduction**

This Statement of Work (SOW) provides an overview of work that will be carried out by Respondents as they implement a Remedial Investigation and Feasibility Study (RI/FS) for the Portland Harbor Superfund Site (Site). This RI/FS SOW is attached to the Administrative Order on Consent (AOC) for the Site, and is a supporting document for the AOC. Technical work described in the SOW is intended to provide more information to Respondents for purposes of implementing the AOC and is not intended to change the meaning of any AOC language. This SOW is also consistent with both the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) and the National Contingency Plan (NCP). The AOC and this SOW are hereafter referred to interchangeably as the “AOC”. Any discrepancies between the AOC and SOW are unintended, and whenever necessary the AOC will control in any interpretive disputes.

The RI/FS is expected to be an iterative process. Virtually all RI/FS efforts at CERCLA sites around the country require two, three, or more iterations of sampling and analyses before EPA approves the final RI/FS. This SOW outlines a decision process that will be used to focus sampling programs to gather data that are needed for the decision process. At very large, complex CERCLA sites such as this Site, EPA understands there may be concern on the part of Respondents that such an iterative process could lead to substantial increases in the size, cost, and scope of the RI/FS. However, EPA has an obligation under CERCLA to protect human health and the environment wherever hazardous substances have been discharged or migrated in the environment. To balance these competing interests without arbitrarily defining Site boundaries, EPA has implemented an Initial Study Area (ISA) concept for sampling in the AOC. The ISA concept allows for the initial focus of the sampling effort to be the 5.7-mile stretch of the Willamette River from approximately the southern tip of Sauvie Island at River Mile (RM) 3.5 to the southern end of Swan Island at RM 9.2, and adjacent areas logically associated with an evaluation of the in-water portion of this stretch of the River. This ISA does not include upland sources of contamination being investigated or cleaned up pursuant to ORS 465 as implemented by DEQ. The ISA concept does not define Site boundaries in any manner; it is intended only to provide guidance to Respondents regarding EPA’s expectations for sampling and analysis during the first RI/FS effort.

EPA will consider requests by Respondents to apply its prospective purchaser agreement and other policies to facilitate appropriate commercial transactions at Respondents’ facilities.

The purpose of the RI/FS is to investigate the nature and extent of contamination for the in-water portion of the Site, to assess the potential risk to human health and the environment, to develop and evaluate potential remedial alternatives, and to recommend a preferred alternative. The RI and FS are interactive and will be conducted concurrently, to the extent practicable, in a manner that allows information and data collected during the RI to influence the development of remedial alternatives during the FS, which in turn affect additional information and data needs and the scope of any necessary treatability

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**Statement of Work, Portland Harbor Superfund Site**

studies and risk assessments. A critical objective of Respondents during the RI/FS will be to investigate the Site sufficiently to allow EPA to define Site boundaries in one or more Records of Decision (RODs).

The ISA concept provides a focus area for investigation by Respondents in the initial RI/FS effort consistent with the investigation area used in proposing the Site for the National Priorities List (NPL). Sampling and analyses of environmental media will be necessary outside this focus area although EPA anticipates such sampling and analyses during the initial RI/FS activities will be focused on characterizing the Site and defining the nature and extent of contamination, i.e., to differentiate between comparatively contaminated and comparatively uncontaminated areas. The Site boundaries cannot be defined before the RI/FS is completed. Following completion of the RI/FS work plan for the ISA, the requirements for subsequent RI/FS iterations will be dependent on data needs required to make decisions to protect human health and the environment. EPA will consider issuing orders to obtain participation of additional potentially responsible parties as the RI/FS proceeds. Following identification of data needs required to make decisions relating to protection of human health and the environment, Respondents will prepare RI/FS work plan addenda specifying tasks to be performed in subsequent RI/FS iterations.

Respondents will conduct the RI/FS and will produce draft RI and FS reports that are in accordance with the AOC. The RI/FS will be consistent with the Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (U.S. EPA, Office of Emergency and Remedial Response, October 1988), Data Quality Objectives (DQOs) planning process (EPA QA/G-4, August 2000), and other guidance that EPA uses in conducting an RI/FS (a list of the primary guidance is attached). EPA is aware that not all guidance used for RI/FS purposes may be applicable to a sediment site. EPA's Project Managers for the Site have authority under the NCP to determine when application of any guidance would be inappropriate. Respondents may raise such guidance issues they consider appropriate during implementation of the AOC. EPA's decisions regarding guidance applicability will be incorporated into document approval correspondence or in other written correspondence as appropriate.

The RI/FS Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA describes the report format and the required report content for the draft RI and FS reports. Respondents will furnish all necessary personnel, materials, and services needed for, or incidental to, performing the RI/FS, except as otherwise specified in the AOC.

During implementation of the AOC, Respondents will recommend candidate early action (actions prior to a ROD) criteria and evaluate how in-water portions of the Site meet those criteria in a memorandum for EPA review and approval. The AOC does not require Respondents to implement early actions. Early action implementation may be proposed by Respondents, individually or collectively, and may be undertaken or required of Respondents, individually or collectively, or of other responsible parties pursuant to orders outside the scope of this AOC. The evaluation of candidate early

action areas may be updated based on data collected during implementation of the AOC whenever Respondents deem appropriate or upon EPA request. EPA and Respondents will further discuss the timing of updates as the perceived need may arise.

At the completion of the RI/FS, EPA will be responsible for the selection of a Site remedy and will document this selection in one or more RODs. The remedial action alternatives selected by EPA will meet the cleanup standards specified in Section 121 of CERCLA; the selected remedial action will be protective of human health and the environment, will be in compliance with, or include a waiver of, applicable or relevant and appropriate requirements (ARARs) of all other state and federal laws, will be cost-effective, will utilize permanent solutions and alternative treatment technologies or resource recovery technologies, to the maximum extent practicable, and will address the statutory preference for treatment as a principal element, as appropriate under the NCP. The final RI/FS report, as approved by EPA, will, with the administrative record, form the basis for the selection of the Site's remedy and will provide the information necessary to support development of one or more RODs.

As specified in Section 104(a)(1) of CERCLA, EPA will provide oversight of Respondents' activities throughout implementation of the AOC. Respondents will support EPA's initiation and conduct of activities related to implementation of oversight activities, except for those actions performed by individual Respondents or others under separate orders.

## **Section 2: Project Strategy**

The strategy for general management of the Site includes shared responsibilities between the Oregon State Department of Environmental Quality (DEQ) and EPA, pursuant to a Memorandum of Understanding (MOU) for the Site. Six Tribes and several Natural Resource Trustees (NRTs) are also signatories to this MOU. The MOU does not define Site boundaries or in any way limit EPA's or DEQ's statutory authority to protect human health and the environment from hazardous substance releases to the Site, or from hazardous substance releases from upland sources to the Site.

The terms "in-water" and "upland" have been used in the MOU and this AOC for administrative convenience in a sharing of workload between EPA and DEQ. They do not represent limitations or demarcations in EPA and/or DEQ authority. EPA and DEQ roles, as more fully described in the MOU, in no way establish limitations or boundaries that bind either agency or limit the effective scope of the AOC. Source control work or enforcement beyond source identification will be the subject of agreements or orders by EPA or DEQ outside the scope of the AOC.

As described in the MOU, EPA and DEQ will consult with Tribes and NRTs throughout implementation of the AOC, and will solicit their technical expertise on all aspects of the project. To facilitate timely review and comment of all work products by EPA, Respondents will make all draft and interim deliverables available for DEQ, Tribes' and NRTs' review and comment. EPA will compile all comments from DEQ, Tribes and NRTs and will identify the comments requiring a response by Respondents. Where the AOC refers to EPA, indicating activity by EPA employees, such activities may also be performed by representatives of DEQ. EPA and DEQ may alter their work sharing arrangements and will notify Respondents in advance of any such alterations affecting Respondents' duties under the AOC.

Work conducted pursuant to the AOC will include development of Site-specific remedial action objectives (RAOs). These RAOs may be a combination of applicable federal and state ARARs, published guidelines, and/or risk-based cleanup levels. Respondents will participate in developing these RAOs. EPA will closely coordinate the development of Site-specific RAOs with upland work performed by DEQ in order to prevent recontamination of the Site following implementation of the selected remedial actions.

Work conducted pursuant to the AOC will include completion of a comprehensive cultural resource analysis (Task 2b) as described below. The coverage area for this analysis during the first RI/FS iteration will include the in-water portion of the Site from the confluence of the Willamette and Columbia Rivers to Willamette Falls, including relevant upland areas adjacent to this stretch of the river as determined in consultation with the Tribes. The comprehensive cultural resource analysis itself, procedures for protecting and addressing cultural resources before, during, and after both the RI/FS and Remedial Action/Remedial Design (RD/RA) are complete, and performance of all cultural resource work, will be coordinated with the Tribes. All cultural resource Site



information will be protected as confidential information under procedures developed in consultation with the Tribes.

Section 312 of the Water Resources Development Act (WRDA) prioritizes contaminated sediments within the Willamette River for environmental remediation and restoration. As non-federal sponsor, the Port of Portland is negotiating a cost sharing agreement with the U.S Army Corps of Engineers (Corps) to perform a feasibility study of the Lower Willamette under WRDA. EPA will pursue an interagency agreement with the Corps, in consultation with the State, Tribes, and NRTs that integrates or coordinates any activity or funding under WRDA, which may become available for work at the Site. Following an EPA-Corps agreement, the parties will develop an appropriate process to integrate and coordinate with the RI/FS any activity or funding under WRDA which may become available for work at the Site, consistent with the EPA-Corps agreement. The parties agree that any WRDA activity or funding shall not affect the rights and responsibilities of any person under CERCLA and must be consistent with the National Contingency Plan. The unavailability of WRDA activities or funding shall not affect Respondents' obligation to perform the RI/FS.

The following tasks describe the work to be conducted by Respondents.

### **Section 3: Task 1 - Shared Server**

Respondents will develop a shared server designed for secure access by designated representatives of Respondents, EPA, DEQ, Tribes, NRTs, the Agency for Toxic Substances and Disease Registry (ATSDR), the Oregon Health Division (OHD), and the United States and Oregon Departments of Justice (USDOJ and ODOJ), and designed to accomplish the following objectives:

1. secure viewing of validated information and data; project information, photographs, sketches, and other information intended to facilitate rapid analysis of ongoing fieldwork;
2. secure access to project schedules, memoranda, references, important correspondence, and other project-management materials to facilitate communication among all principal parties regarding schedule and project status; and,
3. secure tools for sending common documents out for review to multiple parties, sending and receiving comments and approvals from EPA electronically, and approving documents electronically.

All information placed on the shared server will be subject to EPA approval, and it must have a valid, exclusive mechanism for assuring that all information placed on the shared server is protected from general access. Specific cultural resource information and sensitive information regarding threatened or endangered species, such as the specific locations of eagle nests, shall not be placed on the shared server.

#### **Section 4: Task 2 – Scoping (RI/FS Guid, Chap 2)**

Respondents will document the specific project scope in an RI/FS work plan. Because the work required to perform the RI/FS is not fully known at this time, and will occur in an iterative approach as appropriate, it may be necessary to add addenda to the RI/FS work plan during implementation of the AOC to satisfy project objectives. The project scope must consider known or suspected upland sources of sediment contamination, including information and data generated from upland investigations, as they relate to the in-water portion of the Site, and will require coordination with DEQ. Respondents will meet with EPA, DEQ, Tribes, and NRTs at DEQ's and EPA's offices in Portland to discuss the organization and content of information in DEQ's files and to determine the most efficient manner for understanding and incorporating relevant DEQ and EPA information into the project scoping task. Respondents will summarize this DEQ coordination task in a memorandum that will be submitted to EPA for review and approval. Known or suspected upriver sources of contamination must also be considered. Furthermore, as there are species listed under the Endangered Species Act (ESA) located at the Site, EPA is required to coordinate with federal agencies responsible for implementing the ESA. Such work will likely require EPA consultation with federal ESA implementing agencies prior to implementation of significant federal actions conducted or proposed pursuant to the AOC. Therefore, EPA intends for the scoping phase of this project to include scoping for ESA compliance objectives, information and data collection, and other efforts.

Respondents will initiate the RI/FS effort by preparing an RI/FS work plan focused primarily on sampling in the ISA. Goals for the Site have been identified preliminarily based on available information. While there are many potential goals that may, and should, be considered while developing an RI/FS work plan, the protection of survival, growth, and reproduction of the following ecological and human receptors will be directly addressed by Respondents with respect to releases or threatened releases of any hazardous substances to the in-water portion of the Site:

1. benthic invertebrates;
2. fish and shellfish;
3. birds and mammals;
4. human health: protection of human health (cancer and non-cancer impacts) from ingestion of aquatic life and exposure to sediments and surface water and groundwater, as a result of dermal exposure and incidental ingestion through expected beach use, in-water recreation, occupational activities, and ceremonial and subsistence fishing; and,
5. species listed under the ESA.

In identifying Remedial Action Objectives, the following will be considered:

1. the collected information and data may be used by DEQ, Tribes, NRTs; and,
2. all actions to be evaluated should consider current and reasonably foreseeable future land and water uses.

EPA expects that the RI/FS work plan for the ISA, and any subsequent work plan addenda will incorporate problem formulations that articulate what technical decisions need to be made, and then define the information and data needs required to make those decisions. Respondents will use the data quality objectives (DQOs) planning process, and other relevant EPA guidance in conducting the RI/FS, to develop sampling designs for information and data collection activities that support problem formulation and decision-making. Other than in the initial RI/FS work plan for the ISA and adjacent areas, Respondents will propose in all subsequent work plan revisions whether additional information and data are needed and, if so, the design of each information and data collection effort. Respondents may also propose a decision framework that can be applied to the information generated during each data collection effort. This decision framework may aid EPA in determining whether additional data will be required.

Respondents will develop an RI/FS work plan and risk assessment approach that carefully and efficiently addresses these goals in the selection of appropriate remedial actions. During scoping for the RI/FS work plan and for the risk assessment approach, Respondents will meet with EPA regularly to discuss all appropriate project planning decisions and special concerns associated with the Site.

## 4.1 Scoping Tasks

This Site is an active urban harbor with ongoing cleanup, restoration, infrastructure redevelopment, and maintenance dredging projects being performed under multiple federal and state programs. The presence of listed species under the ESA adds complexity to the RI/FS process. Therefore, the scoping task for the RI/FS has been organized into the following subtasks:

- Subtask 2a: Data Compilation/Site Background
- Subtask 2b: Cultural Resources Analysis
- Subtask 2c: Work Plans Submitted via the Stipulated Agreement
- Subtask 2d: Data Review & RI Planning
  - Preliminary Conceptual Site Model
  - Preliminary Analytical Concentration Goals
- Subtask 2e: Preliminary FS Planning Tasks
  - RAO Technical Memorandum
  - Facility Siting Technical Memorandum
  - Capping Material Evaluation
- Subtask 2f: CERCLA/WRDA Integration and Coordination
- Subtask 2g: Identification of Potential Early Actions Areas
- Subtask 2h: RI/FS Work Plan for the ISA

## 4.2 Subtask 2a: Data Compilation/Site Background (RI/FS Guid, Chap 2.2)

Respondents will gather, evaluate, and present the existing Site information and data, and will conduct a Site visit with EPA to assist in planning the scope of the RI/FS. As no Site boundaries currently exist, Respondents will initially focus this effort on the in-water portion of the Site from the confluence of the Willamette and Columbia Rivers to Willamette Falls, and adjacent upland areas logically associated with an evaluation of contamination of the in-water portion of this stretch of the River. This coverage area will be adjusted in subsequent RI/FS activities as necessary to define the Site. The objectives of this subtask are as follows:

1. identify and compile applicable historical information and data that are of acceptable quality for use during the RI/FS process;
2. identify current and historical studies regarding the characteristics of environmental media and the condition of receptor populations;
3. identify useable information and data from current and historical studies for use in developing a conceptual site model (CSM);
4. collect and analyze existing information and data and document the need for additional information and data to the extent practicable. Before planning RI/FS activities, existing Site information and data described above will be thoroughly compiled and reviewed by Respondents, and used to develop a preliminary CSM. Specifically, this will include presently available information and data relating to

the varieties and quantities/concentrations of hazardous substances in sediment at the Site, and past disposal practices and/or releases (including spills and point discharges) that may have impacted the in-water portion of the Site. This will also include results from any previous sediment sampling events that may have been conducted. Information regarding upland sources of contamination will be considered when collecting and analyzing background information. Respondents may consider Table 2-1 of the RI/FS Guidance, the Portland Harbor Sediment Management Plan, and the Draft Portland Harbor Remedial Investigation/Feasibility Study Work Plan (March 31, 2000), to ensure that a comprehensive list of potential information and data sources is prepared and utilized in an effort to gather existing information and data. The following types of information and data as they relate to contamination in the river will be considered, compiled, and evaluated for subsequent use:

- a. sediment chemistry (both bulk and pore water);
  - b. ground water discharges/quality;
  - c. surface water quality;
  - d. sediment toxicity bioassays;
  - e. benthic community analyses;
  - f. salmon, steelhead, lamprey, and sturgeon life history data;
  - g. abundance and distribution of the resident fish community;
  - h. sensitive and special habitat areas (including mitigation and restoration projects);
  - i. fish and invertebrate home range data/projections;
  - j. demographic data including socio-economic and ethnicity information;
  - k. site use information (e.g., public access, commercial, recreational, fish and shellfish consumption, ceremonial and subsistence fishing activities, etc.);
  - l. potential sources of contamination to the in-water portion of the Site, including a summary of sources in surface water, groundwater, storm water, CSO discharges to the river, and other upland sources;
  - m. bathymetric surveys, and any available hydrodynamic and sediment transport data;
  - n. tissue chemistry, for the purpose of assessing direct impacts to aquatic species, as well as to address trophic transfer (bioaccumulation and biomagnification) of contaminants;
  - o. fish histopathology and biomarker data;
  - p. data on federally listed threatened and endangered species and state-listed species;
  - q. summary of pertinent quality assurance/quality control information from each study if available in the study reports and/or a statement that such information is not available or is only available to a limited extent and why, to the extent this is ascertainable; and,
5. compile and summarize all valid permits previously issued by the Corps, or to be issued during implementation of the AOC, as well as all pending permit applications, under which any permit holder may be able to dredge sediment within the Willamette River anywhere between the confluence of the Willamette and

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Columbia Rivers to Willamette Falls, including the date of issuance or application submission, the status, if any, of each permit or application, the identity of each permit holder or applicant, all stated volumes or ranges of volumes of material subject to the permit or application, and the potential time frames of potential dredging to the extent ascertainable.

Respondents will develop DQOs for evaluating the collected information. The DQOs will be focused on determining which collected information is appropriate for incorporation into a Site database. After EPA review of the collected information and approval of the DQOs, Respondents will incorporate acceptable data and information into a single relational database.

Respondents will submit a proposal for design of the relational database for EPA's approval. At a minimum, the database will support geographic information system (GIS) presentation of information and data, and Respondents will present existing information and data in this format. Respondents will evaluate the use of SEDQUAL, a database with GIS interface developed by the Washington Department of Ecology, relative to the development of a new Site-specific database.

Existing information and data will be utilized to help determine data gaps in Site characterization (including determination of background), identify chemicals of potential concern, develop a preliminary CSM, preliminarily identify risks to human health and the environment, better define potential ARARs, and develop a range of preliminarily identified remedial alternatives. Respondents will also provide electronic and database files directly to EPA to allow independent review and analysis of information and data.

#### ***4.2.1 Conduct Site Visit***

Respondents will conduct a site visit by boat with EPA during the project scoping to assist in developing a conceptual understanding of sources, and areas of contamination as well as potential exposure pathways and receptors at the Site. During the site visit Respondents will observe the Site's physiography, hydrology, geology, and demographics, as well as natural resource, ecological, and cultural characteristics. The site visit will be coordinated with the Tribes to assure that appropriate cultural resource staff can attend to assess cultural characteristics. This information will be documented in a trip report primarily consisting of a narrated video that will be utilized to better scope the project. Cultural resources information will be excluded from videotapes or reports unless otherwise approved by the Tribes.

#### **4.3 Subtask 2b: Cultural Resources Analysis**

Respondents will evaluate cultural resources and cultural uses using a typical approach provided for under Section 106 of the National Historic Preservation Act (16 USC Section 470). Respondents will coordinate cultural resource work with appropriate Tribes to ensure that a full and comprehensive cultural resource analysis is done when characterizing Site use. The cultural resources and cultural use analysis will be initiated in 2001 and will be considered in future work.

#### **4.4 Subtask 2c: Work Plans Submitted via the Stipulation and Agreement**

Respondents will conduct investigations and submit reports as identified in the Stipulation and Agreement. The work plans for these investigations are being reviewed, and after approval by EPA, will be implemented as approved under the terms of this AOC.

#### **4.5 Subtask 2d: Data Review & RI Planning**

Respondents will review the information compiled in Tasks 2a-2c and identify, to the extent practicable, data needed to complete the RI/FS. This analysis will be based on application of relevant EPA guidance, and the results of any AOC tasks completed prior to the data gaps analysis effort. The analysis will identify additional information and data that will be required to complete the baseline human health and ecological risk assessments, and to identify and screen remedial action alternatives. The analysis will include the preparation of a preliminary CSM and development of preliminary analytical concentration goals to support the analysis.

##### ***4.5.1 Preliminary Conceptual Site Model (CSM)***

The preliminary CSM will portray the relationship among sources, chemicals, transport mechanisms (including sediment transport, surface runoff and groundwater discharges to the Site), receptors, and other parameters that are determined to be relevant during implementation of the AOC.

The preliminary CSM for the ecological risk assessment (ERA) will include a variety of species that could be impacted by Site-related in-water contamination based on information generated during the historical review and will show the relationships among species and potential exposure pathways. The CSM for the human health risk assessment (HHRA) will include potential exposure pathways.

Consistent with the ISA concept, Respondents may initially focus this effort on the ISA and adjacent areas logically associated with an evaluation of the in-water portion of this

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stretch of the River. This coverage area will be adjusted as necessary in subsequent RI/FS activities to encompass the entire Site, though Respondents will not be required to update the CSM unless EPA determines there is sufficient change to warrant an update.

#### **4.5.2 Preliminary Analytical Concentration Goals**

Preliminary analytical concentration goals will be developed as part of the planning process to assist in selecting appropriate analytical methods and setting analytical DQOs for ecological and human health exposure pathways identified in the CSM. Development of these analytical goals will include, but not be limited to, evaluation of:

1. chemical specific ARARs;
2. sediment concentrations for protection of benthic invertebrates;
3. published tissue concentrations for protection of human health through consumption of fish;
4. published tissue concentrations for protection of fish and wildlife;
5. method detection limits for standardized analytical methods.

#### **4.6 Subtask 2e: Preliminary FS Planning Tasks**

As part of the planning process for the FS, Respondents will prepare the RAO technical memorandum, the disposal facility siting technical memorandum, a capping source evaluation, and an assessment of the data needed to evaluate natural attenuation options.

##### **4.6.1 RAO Technical Memorandum**

Respondents will submit a draft technical memorandum to EPA that identifies preliminary RAOs. The RAOs identified by Respondents will include a range of broadly defined potential RAOs and associated technologies and be consistent with CERCLA, the NCP, and with EPA interpretive guidance. The range of potential alternatives will encompass, where appropriate, alternatives in which treatment significantly reduces the toxicity, mobility, or volume of the waste; alternatives that involve containment with little or no treatment; alternatives that include removal of waste, and a no-action alternative. Respondents will include dredging, capping, monitored natural attenuation, and other alternatives (as well as combinations of each where called for) in the range of alternatives, and will include this analysis in the RAO technical memorandum. This technical memorandum will summarize previously identified RI/FS data gaps associated with each potential remedial action, including data gaps associated with siting a dredged-material disposal facility or obtaining capping material.

The memorandum will include a preliminary identification of potential state and federal ARARs (chemical-specific, location specific, and action specific), including state ARARs

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identified by DEQ in accordance with the NCP, to assist in the refinement of RAOs. Respondents will also identify other advisories, criteria, guidance, and other “to be considered” initiatives, including, but not limited to the Oregon Plan and Wy-Kan-Ush-Mi Wa-Kish Wit. Respondents will update ARAR identification in the technical memorandum during implementation of the AOC as Site boundaries, conditions, contaminants of concern, and RAOs become better defined.

If remedial actions involving treatment are identified by Respondents in the draft technical memorandum, or are identified by EPA prior to final approval of the RAO technical memorandum, treatability studies may be required. Where treatability studies are needed, initial treatability testing activities (such as research and study design) should occur concurrently with implementation of the RI/FS work plan for the ISA and subsequent iterations.

#### ***4.6.2 Facility Siting Technical Memorandum***

Respondents will submit a technical memorandum for EPA review and approval that describes the process needed to identify and obtain disposal site options for contaminated sediment.



#### ***4.6.3 Capping Evaluation***

Respondents will submit a technical memorandum for EPA approval that identifies potential sources of sediment capping materials and outlines testing requirements needed to evaluate the acceptability of the material.

#### ***4.6.4 Natural Attenuation Data Gaps***

Respondents will identify the data needed to evaluate natural attenuation options, and include collection of this data in a RI planning task so that it is available when needed.

#### **4.7 Subtask 2f: CERCLA/WRDA Integration & Coordination Plan**

Following completion of an EPA-Corps agreement, an initial task in the WRDA integration and coordination process will be identification of potential WRDA projects, including the Section 312 project identified in the Corps reconnaissance study dated December 26, 2000. These projects may include siting of possible dredged sediment disposal facilities, contaminated sediment removal, and/or other activities. Respondents will prepare a WRDA integration and coordination plan for EPA review and approval that describes the specific projects that may be considered for WRDA projects, common tasks which may be required for both the Site RI/FS and WRDA projects, and how such common tasks could be performed.

#### **4.8 Subtask 2g: Identification & Evaluation of Potential Early Action Areas**

Respondents will submit a draft technical memorandum to EPA identifying potential criteria for identification of candidate early action areas. Early actions for purposes of the AOC are activities other than RI/FS activities performed before a ROD. Respondents will then use these criteria to identify areas that may be candidate early action areas. Respondents' initial identification of potential early action areas will be based on existing information and data at the time the technical memorandum is prepared. However, Respondents may elect or EPA may require Respondents to update the technical memorandum and/or make further early action candidate evaluations with information and data obtained during implementation of the AOC.

EPA intends that early action areas identified by Respondents in the technical memorandum will focus primarily on sediment early actions, though early actions involving other environmental media or involving upland source control may be considered if there are perceived impacts to sediment from these areas. Engineering Evaluation/Cost Analysis of any removal actions and implementation of any early action will be conducted outside the scope of this AOC.

Early actions at the Site will be the subject of separate government action including those related to source control and/or conducted under DEQ authority. EPA may pursue early actions in areas unrelated to those identified by Respondents if imminent and substantial endangerment conditions are encountered during project implementation, or if EPA otherwise determines there is cause within EPA's authority to pursue early actions.

#### **4.9 Subtask 2h: RI/FS Work Plan for the ISA (RI/FS Guid, Chap 2.3.1)**

Respondents will submit a draft RI/FS work plan for the ISA and adjacent areas to EPA, which incorporates information and data obtained during implementation of subtasks 2a through 2g. The work plan will be developed in conjunction with a sampling & analysis plan, which will consist of a field sampling plan, a quality assurance project plan, and a Site health and safety plan, although each plan may be delivered under separate cover. The work plan will include a comprehensive description of the work to be performed, including a brief overview of the methodologies to be utilized, as well as a corresponding schedule for completion. In addition, the work plan must include the rationale for performing the required activities.

The draft RI/FS work plan will include a table that shows the relationship between the preliminary RAOs, identified data gaps, and sampling locations proposed by Respondents in the work plan. The work plan will include a presentation of DQOs associated with each proposed information and data collection effort, an ISA background summary of known portions of the ISA, and maps/GIS tools depicting the ISA's physiography, hydrology, geology, demographics, ecological, cultural, and natural resource features. The work plan will include a synopsis of the ISA's cultural and development history, and a description of previous environmental work and chemical spills/responses by local, state, or federal authorities, or by private parties.

The draft RI/FS work plan will include a summary (including graphical and geographic information system depictions as appropriate) of the existing information and data in terms of physical and chemical characteristics of the contaminants identified, and their distribution among environmental media in the ISA. The work plan will incorporate the information and data from Task 2.

Most importantly, Respondents will incorporate into the work plan a detailed description of all tasks to be performed, information and resources needed to perform each task, information to be produced during and at the conclusion of each task, a description of the work products that will be submitted to EPA, and the decision-making processes that will be followed by Respondents to interpret results and make recommendations for future efforts under the RI/FS. Specific decision points will be identified in the work plan.

The work plan will include a project management plan, including a data management plan (e.g., requirements for project management systems and software, minimum data requirements, data format and backup data management). The work plan will include a schedule for monthly reports to EPA as well as meetings and presentations to EPA at the conclusion of each major phase that has been identified as a critical decision point during

implementation of the AOC. If Respondents determine that a phased approach to information and data generation is appropriate, the work plan will include the basis for that determination, and how each subsequent phase of the work will flow from previous phases. Respondents will refer to Appendix B of the RI/FS Guidance for a comprehensive description of the contents of the required work plan. The work plan will also include a description of the general approach to conducting the baseline risk assessments and the feasibility study. Because of the absence of Site boundaries and the iterative nature of the RI/FS, additional information and data requirements and analyses may be identified throughout the process. Whenever this occurs, Respondents will submit a technical memorandum documenting the need for additional information and data. In any event, Respondents are responsible for fulfilling additional information and data and analysis needs identified by EPA consistent with the general scope and objectives of the AOC.

#### **4.9.1      *Sampling & Analysis Plan (RI/FS Guid, Chap 2.3.2)***

Respondents will prepare a sampling & analysis plan (SAP) to ensure that sample collection and analytical activities are conducted in accordance with technically acceptable protocols. The SAP provides a mechanism for planning field activities and consists of a field sampling plan (FSP) and a quality assurance project plan (QAPP). These documents may be combined.

The FSP will define in detail the sampling and data-gathering methods that will be used on the project. It will include sampling quality assurance objectives, sample location and frequency, sampling equipment and procedures, and sample handling and laboratory analysis. The QAPP will describe the project objectives and organization, functional activities, and quality assurance and quality control (QA/QC) protocols that will be used. The laboratory QA/QC will, at a minimum, reflect use of analytic methods to identify contamination consistent with the levels for RAOs identified in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR 300.420 (c)(4) and 300.430(b)(8). In addition, the QAPP will address sampling procedures, sample custody, analytical procedures, and data reduction, validation, reporting, and personnel qualifications.

Respondents will demonstrate in the SAP that each laboratory it may use is qualified to conduct the proposed work. This includes use of methods and analytical protocols for the chemicals of concern in the media of interest within detection and quantification limits consistent with both QA/QC procedures and DQOs approved in the QAPP. The laboratory must have and follow an approved QA program. If a laboratory not in the contract laboratory program (CLP) or a lab that has not been previously approved by EPA is selected, methods and QA/QC procedures with demonstrated performance that are consistent with CLP methods that would otherwise be used at this Site for the purposes proposed and QA/QC procedures approved by EPA will be used. If the laboratory is not in the CLP program, a laboratory QA program must be submitted for EPA review and approval. EPA may require that Respondents submit detailed

information to demonstrate that the laboratory is qualified to conduct the work, including information on personnel qualifications, equipment, and material specifications. Respondents will provide assurances that EPA has access to laboratory personnel, equipment, and records for sample collection, transportation, and analysis.

#### **4.9.2     *Site Health & Safety Plan (RI/FS Guid, Chap 2.3.3)***

A health & safety plan will be prepared in conformance with Respondents' health and safety programs, and in compliance with OSHA regulations and protocols. The health and safety plan will include the eleven- (11) elements described in the RI/FS Guidance, such as a health and safety risk analysis, a description of monitoring and personal protective equipment, medical monitoring, and Site control. It should be noted that EPA does not "approve" Respondents' health and safety plan, but rather EPA reviews it to ensure that all necessary elements are included, and that the plan provides for the protection of human health and the environment.

### **Section 5: Task 3 - Community Relations**

The development and implementation of community relations activities are the responsibility of EPA, with support from DEQ. Respondents may be requested to assist with activities such as providing information, participating in public meetings, and establishing a community information repository at or near the Site. The extent of Respondents involvement in EPA-related community relations activities is left to the discretion of EPA.

#### **Section 6    Task 4 - Dredging Coordination**

Respondents will notify and consult with EPA prior to Respondents undertaking any dredging activities at the Site during implementation of the AOC. *(See Subtask 2a, 5.)* The notification shall include information regarding the nature and scope of the dredging activity, proposed schedule, potential environmental impacts, and coordination with the RI/FS. The notifications in this paragraph shall be updated annually or as necessary to account for Respondents new dredging activity.



## **Section 7: Task 5 - Site Characterization (RI/FS Guid, Chap 3)**

As part of the RI, Respondents will perform the activities described in this task, including the preparation of a site characterization/RI data compilation summary and an RI Report. The overall objective of site characterization is to describe/identify areas of the in-water portion of the Site that may pose a threat to human health or the environment. This is accomplished by first determining/describing the Site's physiography, geology, and hydrology. Surface and subsurface pathways of contaminant migration to the River will be evaluated, including a sediment evaluation to better understand contaminant fate and transport analyses. Respondents will identify sources of contamination to the in-water portion of the Site, including those sources identified based on information obtained through DEQ summaries, and define the nature, extent, and volume of sediment that poses unacceptable risk (using the human health and ecological risk assessment processes) relative to those sources.

During this phase of the RI/FS, the work plan, SAP, and health & safety plan are implemented. Field information and data are collected and analyzed to provide the information required to meet the goals of the RI. Respondents will notify EPA at least one week in advance of initiating fieldwork. In view of the possible unknown Site conditions, activities often are iterative, and to satisfy the objectives of the RI/FS it may be necessary for Respondents to supplement the work specified in the initial RI/FS work plan. In addition to the deliverables below, Respondents will provide a monthly progress report and participate in meetings at major decision points, as described in the work plan, during the RI/FS process.

### **7.1 Field Investigation (RI/FS Guid, Chap 3.2)**

Field investigation includes gathering of information and data to fill data gaps, and to define Site physical and biological characteristics, sources of contamination, the nature and extent of contamination at the Site, and both human and ecological risks associated with the Site. Respondents will perform these activities in accordance with the work plan and SAP and as described in the AOC.

### **7.2 Implement & Document Field Support Activities (RI/FS Guid, Chap 3.2.1)**

Respondents will initiate field support activities following approval of the work plan and SAP. Field support activities may include obtaining access to the Site, scheduling and procuring equipment, obtaining field laboratory space, laboratory services, and/or contractors. Respondents will notify EPA at least one week prior to initiating field support activities so that EPA may adequately schedule oversight tasks, if appropriate. Respondents will also notify EPA, in writing, upon completion of field support activities.

### **7.3 Investigate & Define Site Physical & Biological Characteristics (RI/FS Guid, Chap 3.2.2)**

Respondents will collect information and data on the physical and biological characteristics of the Site relevant to the presence and migration of hazardous substances, the evaluation of risks to human health and the environment and the development and evaluation of remedial action alternatives. Data gathering will be focused on those characteristics that impact the decision-making process, including the physiography, geology, and hydrology, and specific physical characteristics identified in the work plan. This information will be ascertained/gathered through various means that may include a combination of physical measurements, observations, and sampling efforts, and will be utilized to help identify potential transport pathways and the human and ecological receptors mentioned in the project objectives. In defining the Site's physical characteristics Respondents will also obtain sufficient data for the interpretation of contaminant fate and transport, and to support development and screening of remedial action alternatives, including information to assess treatment technologies.

#### **7.3.1 Develop Preliminary Remediation Goals (PRGs)**

To support RI/FS activities, Respondents will develop PRGs. Respondents will meet with EPA technical representatives prior to initiating this task. The objective of these meetings will be to discuss application of EPA guidance. Development of PRGs for applicable contaminants will include the following:

1. nationally-developed and/or regionally developed numerical sediment guidelines for the protection of benthic invertebrates;
2. protection of human health from consumption of aquatic organisms. This will be done by calculating acceptable chemical specific fish tissue concentrations then utilizing biota-sediment accumulation factors (BSAFs), or another appropriate method for analyzing paired observations of contaminant concentrations, to derive associated sediment goals. Development of acceptable fish tissue calculations will consider the patterns and consumption rates of subsistence fishers and/or other potentially highly exposed individuals;
3. protection of human health assuming direct contact with environmental media as a result of beach use, fishing, occupational exposure, transient use, recreational activities, and other activities in which such contact may occur;
4. groundwater that enters the River or daylight in beach seeps where humans can become exposed to it as surface water for protection of human health from consumption of aquatic organisms and from direct contact activities;

5. acceptable screening fish tissue contaminant concentrations for an appropriate piscivorous wildlife receptor utilizing literature-based trophic transfer factors, then utilize a BSAF, or another appropriate method for analyzing paired observations of contaminant concentrations, to derive an associated sediment goal;
6. pertinent studies of residue-effects relationships in fish to determine acceptable fish tissue contaminant concentrations for protecting the health of resident and migratory fish (for contaminants that bioconcentrate or bioaccumulate), then use a BSAF or another appropriate method for analyzing paired observations of contaminant concentrations to derive an associated sediment goal; and,
7. pertinent studies and appropriate approaches to determine acceptable exposures for the health of resident and migratory fish (for contaminants that are readily metabolized).

#### **7.4 Identify Sources of Contamination** (RI/FS Guid, Chap 3.2.3)

Respondents will identify source areas that are contributing to contamination to the in-water portion of the Site. Although DEQ is primarily responsible for the control of upland contaminant sources to the Site, as part of the RI/FS, Respondents shall evaluate the distributions of sediment contaminants and, if appropriate (e.g., if the sediment data suggests the presence of an ongoing source), make recommendations to EPA and DEQ if the need for further investigation or control of sources is identified.

EPA and DEQ will utilize this information in making source control adequacy determinations. Because upland sites represent many of the known contaminant sources, coordination with upland investigations and DEQ source control efforts will be required.

#### **7.5 Define Human & Ecological Use of Site**

Respondents will gather the information and data necessary to define use of the Site so that a Site-specific exposure assessment can be performed. In addition to existing literature, information and data gathering, defining the use of the Site may require observation, surveys (including field surveys of fish and wildlife populations and habitats within Portland Harbor, and surveys of human fishing practices) and personal interviews. The Portland Harbor RI/FS work plan will be considered as a starting point for collection of this information. Site use will be determined on a year-round basis. In addition, future use of the Site shall be investigated. Specifically, Respondents shall identify planned or projected shoreline developments, navigational dredging projects, and any other reasonably foreseeable future uses that may affect sediment quality or human or ecological exposure to hazardous substances at or from the in-water portion of the Site.

## **7.6 Describe the Nature & Extent of Contamination** (RI/FS Guid, Chap 3.2.4)

Respondents will gather the information necessary to describe the nature and extent of contamination as a final step during the field investigation. Respondents will then implement sampling that will generate information and data on contaminant distributions and biological effects. Any study program identified in the work plan or SAP shall utilize analytical techniques sufficient to detect and quantify the concentration of contaminants and the migration of contaminants through the various media (specifically groundwater and sediment) at the Site. In addition, Respondents will collect the information and data necessary to assess contaminant fate and transport. Subsequent sampling events may be required. This process is continued until sufficient information and data are known to characterize the area and depth of contamination to complete the RI and to evaluate remedial alternatives. Respondents will use the information on the nature and extent, and fate and transport of contamination in conjunction with the baseline risk assessments to determine the level of risk presented by the Site. Respondents will also use this information to help determine the appropriate potential remedial action alternatives to be evaluated.

## **7.7 Data Analyses** (RI/FS Guid, Chap 3.4)

### **7.7.1 Evaluate Site Characteristics** (RI/FS Guid, Chap 3.4.1)

Respondents will analyze and evaluate the information and data to describe: (1) Site physical and biological characteristics; (2) contaminant source characteristics in areas impacted by contaminant sources; (3) nature and extent of contamination of the in-water portion of the Site; and (4) contaminant fate and transport. Site physical characteristics, source assessments, and extent of contamination analyses are utilized in the analysis of contaminant fate and transport. The evaluation of contaminant fate and transport will include the extent of horizontal and vertical spread of contamination as well as information from the literature on contaminant mobility and persistence of contaminants. If modeling is considered appropriate by the Respondents, such models shall be identified to EPA in a technical memorandum prior to their use. Except as otherwise provided in the AOC, all data and programming, including any proprietary programs, shall be made available to EPA together with a sensitivity analysis. Respondents shall discuss and then collect if necessary, any information and data needed to fill data gaps identified by EPA. Also, this evaluation shall include information relevant to Site characteristics that is

necessary for evaluation of the need for remedial action in the baseline risk assessment and for the development and evaluation of remedial alternatives.

#### **7.7.2 Assess Human & Ecological Risk**

The baseline human health and ecological risk assessments will be conducted following the collection of chemical and biological information and data as determined by EPA.

EPA will review with DEQ, NRTs, and Tribes, Respondents' qualifications to perform the risk assessments. EPA will determine Respondents qualifications to perform the risk assessments in accordance with OSWER Directive No. 9835.15c. Upon EPA approval, Respondents shall perform baseline risk assessments for human health and ecological impacts using guidance designated by EPA. This guidance may include but not be limited to: Risk Assessment Guidance for Superfund: Volume 1 - Human Health Evaluation Manual (Parts A and D); Interim Guidance: Developing Risk Based Clean-up Levels at Resource Conservation and Recovery Act Sites in Region 10, (January, 1998); Ecological Risk Assessment for Superfund: Process for Designing and Conducting Ecological Risk Assessments, Interim Final, June 1997; and Guidelines for Ecological Risk Assessment, EPA/630/R95/002-F, 1998. Many of these guidance documents and others may be found at:

[www.epa.gov/superfund/programs/risk/humhlth.htm](http://www.epa.gov/superfund/programs/risk/humhlth.htm)  
[www.epa.gov/r10earth/offices/oea/risk/r0riskec.htm](http://www.epa.gov/r10earth/offices/oea/risk/r0riskec.htm)

Respondents will meet with EPA, DEQ, Tribes, and NRTs to scope the risk assessments. Following the scoping meeting, Respondents will prepare a risk assessment scoping memorandum for EPA review and approval. The risk assessment scoping memorandum shall describe the scope of the human health and ecological risk assessments as agreed upon with EPA during the scoping meeting, describe the key elements of the human health and ecological risk assessments (e.g., exposure pathway and receptor identification) and provide a list of interim deliverables and a schedule for their submittal. It is anticipated that the conceptual site models, exposure assessments, and problem formulation that were completed during RI/FS scoping will be revised to reflect new information and data. Draft baseline human health and ecological risk assessment reports will be submitted to EPA for review and approval. The final risk assessment reports shall be included with the RI report.

Following early action implementation, other dredging projects, or cleanup activities at the Site, Respondent may at any time submit one or more technical memoranda assessing the impacts of such activities, if any.

### **7.7.3     *Data Management Procedures* (RI/FS Guid, Chap 3.5)**

Respondents will consistently document the quality and validity of field and laboratory data compiled and generated during the RI.

#### **7.7.3.1   *Document Field Activities* (RI/FS Guid, Chap 3.5.1)**

Information gathered during site characterization will be consistently documented and adequately recorded by Respondents in well-maintained field logs and laboratory reports. The method(s) of documentation must be specified in the work plan and/or the SAP. Field logs must be utilized to document observations, measurements, and significant events that have occurred during field activities. Laboratory reports must document sample custody, analytical responsibility, analytical results, adherence to prescribed protocols, nonconformity events, corrective measures, and/or data deficiencies.

#### **7.7.3.2   *Maintain Sample Management & Tracking* (RI/FS Guid, Chap 3.5.2; 3.5.3)**

Respondents will maintain field reports, sample shipment records, analytical results, and QA/QC reports to ensure that only validated analytical data are reported and utilized in the characterization of the nature and extent of sediment contamination and the development and evaluation of remedial alternatives. Analytical results developed under the work plan will not be included in any site characterization reports unless accompanied by or cross-referenced to a corresponding QA/QC report. In addition, Respondents will establish a data security system to safeguard chain-of-custody forms and other project records to prevent loss, damage, or alteration of project documentation.

## **7.8     *Site Characterization Deliverables* (RI/FS Guid, Chap 3.7)**

Respondents will prepare the following site characterization deliverables:

### **7.8.1     *Preliminary Site Characterization RI/Data Compilation Summary***

*(RI/FS Guid, Chap 3.7.2)*

After completing field sampling and analyses, Respondents will submit a concise site characterization RI data compilation summary. This summary will review the investigative activities that have taken place, and describe and display Site information

and data documenting the location and characteristics of surface and subsurface features and contamination at the Site, including sample locations, chemical concentration distributions and the results of any biological testing. This evaluation will include, to the extent practicable, chemical distributions relative to known sources, the location and varying concentrations of contaminants in areas influenced by sources, and the extent of contaminant migration through the in-water portion of the Site. The RI data compilation summary will provide EPA with a preliminary reference for evaluating the risk assessments, the development and screening of remedial alternatives, and the further identification of ARARs.

#### **7.8.2     *Remedial Investigation (RI) Report (RI/FS Guid, Chap 3.7.3)***

Respondents will prepare and submit a draft RI Report to EPA for review and approval. This report shall summarize results of field activities to characterize the Site, sources of contamination, nature and extent of contamination, and the fate and transport of contaminants. Respondents will refer to the RI/FS Guidance for an outline of the report format and contents. Following comment by EPA, Respondents will prepare a final RI Report that satisfactorily addresses EPA's comments.

#### **7.8.3     *Human Health & Ecological Risk Assessment Report***

Once all interim deliverables have been completed, Respondents shall submit the baseline risk assessment reports. EPA guidance shall be consulted in preparing the reports.

## **Section 8    Task 6 - Treatability Studies (RI/FS Guid, Chap5)**

To the extent necessary, to complete the screening of remediation alternatives as described in Task 7, treatability testing will be performed by Respondents to assist in the detailed analysis of alternatives. If treatability studies are needed as part of an early action, but not needed for the site as a whole, then the treatability studies will be performed as part of the early action process by the implementing Respondent or other party rather than as part of the FS. In addition, if applicable, testing results and operating conditions will be used in the detailed design of the selected remedial technology to the extent necessary. If treatability studies are needed to complete screening of the remedial alternatives, the following activities will be performed by Respondents.

### **8.1    Determination of Candidate Technologies & the Need for Testing**

*(RI/FS Guid, Chap 5.2; 5.4)*

Respondents will identify, in a technical memorandum based on the preliminary screening during Task 7, and subject to EPA review and approval, candidate technologies for a treatability studies program. The listing of candidate technologies will cover the range of technologies required for alternatives analysis. The specific information and data requirements for the testing program will be determined and refined during the development and screening of remedial alternatives (Task-7).

#### ***8.1.1    Conduct Literature Survey & Determine Need for Treatability Testing***

*(RI/FS Guid, Chap 5.2)*

Respondents will conduct a literature survey that focuses on existing sediment treatment methods to gather information on performance, relative costs, applicability, removal efficiencies, operation and maintenance (O&M) requirements, and implementability of candidate technologies. Based on this review and project DQOs, Respondents will recommend to EPA during Task 7 whether treatment is a feasible and cost-effective alternative for sediments. If EPA and Respondents agree that treatment is a feasible and cost-effective alternative based on existing Site characteristics, and if practical candidate technologies have not been sufficiently demonstrated, or cannot be adequately evaluated for this Site on the basis of available information, treatability testing will be conducted. Where it is determined by EPA that treatability testing is required, and unless Respondents can demonstrate to EPA's satisfaction that they are not needed, Respondents will submit a statement of work to EPA outlining the steps and information and data necessary to evaluate and initiate the treatability testing program.

If it is determined that treatability studies are appropriate, Respondents shall begin the process of obtaining a site at which this work could be conducted. The treatability testing site will be dependent on the specifics of the process, and those specifics will be presented in a technical memorandum for EPA review.



### **8.1.2      *Evaluation of Treatability Studies* (RI/FS Guid, Chap 5.4)**

Once a decision has been made to perform treatability studies, Respondents and EPA will decide on the type of treatability testing to use (e.g., bench versus pilot). Because of the time required to design, fabricate, and install pilot scale equipment as well as perform testing for various operating conditions, the decision to perform pilot testing shall be made as early in the process as possible to minimize potential delays of the FS. A brief scope of work will be prepared by Respondents that lists the candidate technologies, identifies the scale that they will be tested on (pilot vs. bench), and lists available facilities/sites at which the testing can occur. This scope of work will be reviewed by EPA prior to preparation of the work plan for the treatability studies. To assure that a treatability testing program is completed on time, and with accurate results, Respondents will either submit a separate treatability testing work plan or an amendment to the Site work plan for EPA review and approval.

## **8.2      *Treatability Testing & Deliverables* (RI/FS Guid, Chap 5.5; 5.6; 5.8)**

The deliverables that are required, in addition to the memorandum identifying candidate technologies, where treatability testing will be conducted, include a work plan, a sampling and analysis plan, and a final treatability evaluation report. EPA may also require a treatability study health and safety plan, where appropriate.

### **8.2.1      *Treatability Testing Work Plan* (RI/FS Guid, Chap 5.5)**

Respondents will prepare a treatability testing work plan or amendment to the Site work plan for EPA review and approval describing the Site background, remedial technology(ies) to be tested, test objectives, experimental procedures, treatability conditions to be tested, measurements of performance, analytical methods, data management and analysis, health and safety, and residual waste management. The DQOs for treatability testing shall be documented as well. If pilot scale treatability testing is to be performed, the pilot scale work plan will describe pilot plant installation and start-up, pilot plant operation and maintenance procedures, operating conditions to be tested, a sampling plan to determine pilot plant performance, and a detailed health and safety plan. If testing is to be performed off-site, permitting requirements will be addressed.

### **8.2.2      *Treatability Study SAP (RI/FS Guid, Chap 5.5)***

If the QAPP or FSP are not adequate for defining activities to be performed during the treatability tests, a separate treatability study SAP or amendment to the Site SAP will be prepared by Respondents for EPA review and approval. Subtask 2h (Section 4.9 1) of this SOW provides additional information on the requirements of the SAP.

### **8.2.3      *Treatability Study Health & Safety Plan (RI/FS Guid, Chap 5.5)***

If the original health and safety plan is not adequate for defining the activities to be performed during the treatment tests, a separate or amended health and safety plan will be developed by Respondents. Task 2h (Section 4.9.2) of this SOW provides additional information on the requirements of the health and safety plan. EPA does not “approve” the treatability study health and safety plan.

### **8.2.4      *Treatability Study Evaluation Report (RI/FS Guid, Chap 5.6)***

Following completion of treatability testing, Respondents will analyze and interpret the testing results in a technical report to EPA. Depending on the sequence of activities, this report may be a part of the RI/FS report or a separate deliverable. The report will evaluate each technology’s effectiveness, implementability, cost, and actual results as compared with predicted results. The report will also evaluate full-scale application of the technology, including a sensitivity analysis identifying the key parameters affecting full-scale operation.

## **Section 9: Task 7- Development & Screening of Remedial Alternatives (RI/FS Guid,**

### **Chap 4)**

The development and screening of remedial alternatives are performed to develop an appropriate range of alternatives that will be evaluated. This range of alternatives shall include, but is not limited to, no action, natural attenuation/enhanced natural recovery and/or attenuation, in-place confinement (capping), dredging and disposal in confined aquatic disposal sites (CADs), near shore and/or upland confined disposal facilities, dredging and disposal in existing landfills, dredging and sediment reuse, treatment, as appropriate, to reduce the toxicity, mobility, or volume of hazardous substances, and options combining aspects of these and/or other alternatives. The following activities will be performed by Respondents as a function of the development and screening of remedial alternatives.

### **9.1 Development & Screening of Remedial Alternatives (RI/FS Guid, Chap 4.2)**

Respondents will begin to develop and evaluate a range of appropriate alternatives (i.e., remedial alternatives as well as disposal alternatives) that ensure protection of human health and the environment following completion of the baseline risk assessment.

#### ***9.1.1 Refine & Document RAOs (RI/FS Guid, Chap 4.2.1)***

Based on the baseline risk assessment, and the results of the RI, Respondents will review and, if necessary, modify the Site-specific RAOs. Revised RAOs will include updated PRGs that were initially calculated by the Respondents during the RI. The revised PRGs will be documented in a technical memorandum that will be reviewed and approved by EPA. These modified PRGs will specify the contaminants and media of interest, exposure pathways and receptors, and an acceptable contaminant level or range of levels (at particular locations for each exposure route).

#### ***9.1.2 Develop General Response Actions (RI/FS Guid, Chap 4.2.2)***

Respondents will develop general response actions for each media of interest defining containment, treatment, excavation, pumping, natural attenuation, or other actions, singly or in combination, as appropriate to satisfy the RAOs.

#### **9.1.3      *Identify Areas & Volumes of Sediment* (RI/FS Guid, Chap 4.2.3)**

Respondents will identify areas and volumes of contaminated sediments to which general response actions, other than early actions, may apply, taking into account requirements for protectiveness as identified in the RAOs. The chemical and physical characterization of the Site will also be taken into account.

#### **9.1.4      *Identify, Screen, & Document Remedial Technologies* (RI/FS Guid, Chap 4.2.4; 4.2.5)**

Respondents will identify and evaluate technologies applicable to each general response action to eliminate those that cannot be implemented and/or are not feasible at the Site. General response actions will be refined to specify remedial technology types. Technology process options for each of the technology types will be identified either concurrent with the identification of technology types, or following the screening of the considered technology types. Process options will be evaluated on the basis of short and long-term effectiveness, implementability, and cost factors to select and retain one or, if necessary, more representative processes for each technology type. If two technologies are of equal effectiveness and implementability, Respondents may propose that the more costly technology be eliminated from consideration. The technology types and process options will be summarized for inclusion in a technical memorandum. The reasons for eliminating alternatives must be specified.

#### **9.1.5      *Assemble & Document Alternatives* (RI/FS Guid, Chap 4.2.6)**

Respondents will assemble selected representative technologies into alternatives for the Site or, if appropriate, for each affected medium or operable unit. Together, all of the alternatives will represent a range of treatment and containment combinations that will address either the Site or each operable unit as a whole. A summary of the assembled alternatives and their related action-specific ARARs will be prepared by Respondents for inclusion in a technical memorandum. The reasons for eliminating alternatives during the preliminary screening process must be specified.

#### **9.1.6      *Refine Alternatives***

Respondents will refine the remedial alternatives to identify the contaminated sediment volume addressed by each alternative. Sufficient information will be collected for an adequate comparison of alternatives. PRGs for each chemical in each medium will also be modified as necessary to incorporate any new risk assessment information presented in the baseline risk assessment report. Additionally, action-specific ARARs will be reviewed and possibly updated, as the remedial alternatives are refined.

**9.1.7 Conduct & Document Screening Evaluation of Each Alternative (RI/FS  
Guid, Chap 4.3)**

Respondents may perform a final screening process based on short- and long-term aspects of effectiveness, implementability, and relative cost. Generally, this screening process is only necessary when there are many feasible alternatives available for detailed analysis. If necessary, the screening of alternatives will be conducted to assure that only the alternatives with the most favorable composite evaluation of all factors are retained for further analysis. As appropriate, the screening will preserve the range of treatment and containment alternatives that was initially developed. The range of remaining alternatives will include options that use treatment technologies and permanent solutions to the maximum extent practicable. Respondents will prepare a technical memorandum summarizing the results and reasoning employed in screening, arraying alternatives that remain after screening, and identifying the action-specific ARARs for the alternatives that remain after screening.

**9.2 Alternatives Development & Screening Deliverables (RI/FS Guid, Chap 4.5)**

Respondents will prepare a technical memorandum summarizing the work performed in and the results of each task above, including an alternatives array summary. The memorandum will be modified by Respondents if required by EPA's comments to assure identification of a complete and appropriate range of viable alternatives to be considered in the detailed analysis. This deliverable will document the methods, rationale, and results of the alternatives screening process.

## **Section 10: Task 8 - Detailed Analysis of Remedial Alternatives (RI/FS Guid, Chap 6)**

The detailed analysis will be conducted by Respondents to provide EPA with the information needed to allow for the selection of Site remedies. This analysis is the final task to be performed by Respondents during the FS.

### **10.1 Detailed Analysis of Alternatives (RI/FS Guid, Chap 6.2)**

Respondents will conduct a detailed analysis of alternatives which will consist of an analysis of each option against the set of nine CERCLA evaluation criteria and a comparative analysis of all options using the same evaluation criteria.

#### ***10.1.1 Apply Nine Criteria & Document Analysis (RI/FS Guid, Chap 6.2.1 - 6.2.4)***

Respondents will apply the nine CERCLA evaluation criteria to the assembled remedial alternatives to ensure that the selected remedial alternative(s) will be protective of human health and the environment; will be in compliance with, or include a waiver of, ARARs; will be cost-effective; will utilize permanent solutions and alternative treatment technologies, or resource recovery technologies, to the maximum extent practicable; and will address the statutory preference for treatment as a principal element. The evaluation criteria include: (1) overall protection of human health and the environment; (2) compliance with ARARs; (3) long-term effectiveness and permanence; (4) reduction in toxicity, mobility, or volume; (5) short-term effectiveness; (6) implementability; (7) costs; (8) state (or support agency) acceptance; and (9) community acceptance. (Note: criteria 8 and 9 are considered after the RI/FS report has been released to the general public.) For each alternative, Respondents shall provide: (1) a description of the alternative that outlines the sediment management strategy involved and identifies the key ARARs associated with each alternative; and (2) a discussion of the assessment of each alternative against each of the nine criteria. If Respondents do not have direct input on criteria 8 state (or support agency) acceptance or 9 community acceptance, these will be addressed by EPA.

#### ***10.1.2 Compare Alternatives Against Each Other & Document the Comparison of Alternatives (RI/FS Guid, Chap 6.2.5; 6.2.6)***

Respondents will perform a comparative analysis between the remedial alternatives to evaluate the relative performance of each alternative in relation to each specific evaluation criterion. That is, each alternative will be compared against the others using the evaluation criteria as a basis of comparison. Identification and selection of the preferred alternative are reserved by EPA. Respondents will prepare and submit a

technical memorandum summarizing the results of the comparative analysis prior to preparation of the FS report.

## **10.2 Detailed Analysis of Deliverables** (RI/FS Guid, Chap 6.5)

In addition to the technical memorandum summarizing the results of the comparative analysis, Respondents will submit a draft FS report to EPA for review and approval. Once EPA's comments have been addressed by Respondents to EPA's satisfaction, the final FS report may be bound with the final RI report.

### **10.2.1 Feasibility Study Report** (RI/FS Guid, Chap 6.5)

Respondents will prepare a draft FS report for EPA review and comment. This report, as ultimately adopted or amended by EPA, provides a basis for remedy selection by EPA and documents the development and analysis of remedial alternatives. Respondents will refer to the RI/FS Guidance for an outline of the report format and the required report content. Respondents will prepare a final FS report, which satisfactorily addresses EPA's comments.

## **Section 11: EPA Guidance Documents**

The following list, although not comprehensive, comprises many of the regulations and guidance documents that apply to the RI/FS process:

The (revised) National Oil and Hazardous Substance Pollution Contingency Plan (NCP).

“Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA”, U.S. EPA, Office of Emergency and Remedial Response, October 1988, OSWER Directive No. 9355.3-01.

“Guidance on Conducting Non-Time-Critical Removal Actions Under CERCLA”, U.S. EPA, Office of Emergency and Remedial Response, August 1993, OSWER Directive No. 9360.0-32.

“Interim Guidance on Potentially Responsible Party Participation in Remedial investigation and Feasibility Studies”, U.S. EPA, Office of Waste Programs Enforcement, Appendix A to OSWER Directive No. 9355.3-01.

“Guidance on Oversight of Potentially Responsible Party Remedial Investigations and Feasibility Studies”, U.S. EPA, Office of Waste Programs Enforcement, OSWER Directive No. 9835.3.

“A Compendium of Superfund Field Operations Methods”, Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, EPA/540/P-87/001a, August 1987, OSWER Directive No. 9355.0-14.

“EPA NEIC Policies and Procedures Manual”, May 1978, revised November 1984, EPA-330/9-78-991-R.

“Data Quality Objectives for Remedial Response Activities”, U.S. EPA, Office of Emergency and Remedial Response and Office of Waste Programs Enforcement, EPA/540/G-87/003, March 1987, OSWER Directive No. 9335.0-7B.

“Guidance for the Data Quality Objectives Process EPA QA/G-4”, U.S. EPA, Office of Environmental Information, EPA/600/R-96/055, August 2000.

“EPA Requirements for Quality Assurance Project Plans”, USEPA. EPA QA/R5, March 2001.

“EPA Requirements for Quality Management Plans”, U.S. EPA, Office of Emergency and Remedial Response and Office of Waste Programs Enforcement, EPA QA/R-2, Interim Final, November 1999.



“EPA Requirements for Quality Assurance Plans”, U.S. EPA, Office of Emergency and Remedial Response and Office of Waste Programs Enforcement, EPA QA/R-5, Interim Final, November 1999.

“EPA Guidance on Quality Assurance Project Plans”, U.S. EPA, Office of Emergency and Remedial Response and Office of Waste Programs Enforcement, EPA/600/R-98/018, February 1998.

“Users Guide to the EPA Contract Laboratory Program: U.S. EPA, Sample Management Office, August 1982.

“Interim Guidance on Compliance with Applicable or Relevant and Appropriate Requirements”, U.S. EPA, Office of Emergency and Remedial Response, July 9, 1987, OSWER Directive No. 9234.0-05.

“CERCLA Compliance with Other Laws Manual”, Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, August 1988 (draft), OSWER Directive No. 9234.1-01 and -02.

“Guidance on Remedial Actions for Contaminated Groundwater at Superfund Sites”, U.S. EPA, Office of Emergency and Remedial Response, (draft), OSWER Directive No. 9283.1-2.

“Draft Guidance on Preparing Superfund Decision Documents”, U.S. EPA, Office of Emergency and Remedial Response, March 1988, OSWER Directive No. 9355.3-02.

“Risk Assessment Guidance for Superfund--Volume I, Human Health Evaluation Manual (Part A)”, December 1989, EPA/540/1-89/002.

“Risk Assessment Guidance for Superfund--Volume II Environmental Evaluation Manual”, March 1989, EPA/540/1-89/001.

“Guidance for Data Useability in Risk Assessment”, October 1990, EPA/540/G-90/008.

“Performance of Risk Assessments in Remedial Investigation/ Feasibility Studies (RI/FSs) Conducted by Potentially Responsible Parties (PRPs)”, August 28, 1990, OSWER Directive No. 9835.15.

“Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions”, April 22, 1991, OSWER Directive No. 9355.0-30.

“Health and Safety Requirements of Employees Employed in Field Activities”, U.S. EPA, Office of Emergency and Remedial Response, July 12, 1981, EPA Order No. 1440.2.

OSHA Regulations in 29 CFR 1910.120 (Federal Register 45654, December 19, 1986).

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**Statement of Work, Portland Harbor Superfund Site**

“Interim guidance on Administrative Records for Selection of CERCLA Response Actions”, U.S. EPA, Office of Waste Programs Enforcement, March 1, 1989, OSWER Directive No. 9833.3A.

“Community Relations in Superfund: A Handbook”, U.S. EPA, Office of Emergency and Remedial Response, June 1988, OSWER Directive No. 9320.0-03B.

“Community Relations During Enforcement Activities and Development of the Administrative Record”, U.S. EPA, Office of Waste Programs Enforcement, November 1988, OSWER Directive No. 9836.0-1A.

“Coordination between RCRA Corrective Action and Closure and CERCLA Site Activities”, Office of Enforcement and Compliance Assurance, U.S. EPA, September 24, 1996.

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HEARINGS CLERK  
EPA--REGION 10

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION X**

**IN THE MATTER OF:**

**Portland Harbor Superfund Site,**

**ATOFINA Chemicals, Inc., Chevron U.S.A., Inc.,  
Gunderson, Inc., Northwest Natural Gas,  
City of Portland, Port of Portland, Time Oil Co.,  
ConocoPhillips Company (formerly Tosco  
Corporation), Union Pacific Railroad Company, )  
Oregon Steel Mills, Inc.**

**U.S. EPA Docket Number  
CERCLA-10-2001-0240**

**RESPONDENTS,**

**Proceeding Under Sections 104,  
122(a), and 122(d)(3) of the  
Comprehensive Environmental Response  
Compensation, and Liability Act, (CERCLA) as  
amended, 42 U.S.C. §§ 9604, 9622(a),  
and 9622(d)(3).**

**AMENDMENT NO. 1**

**ADMINISTRATIVE ORDER ON CONSENT  
FOR REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

The undersigned hereby unanimously agree that the Administrative Order on Consent is amended as follows:

**Section V. of the AOC is amended by the addition of paragraph 7 set forth below:**

**7. EPA has entered into a Memorandum of Understanding for the Portland**

**Portland Harbor Superfund Site RI/FS AOC, Amd. No. 1**

Harbor Superfund Site (the "MOU") with, among others, the Confederated Tribes and Bands of the Yakama Nation, the Confederated Tribes of the Grand Ronde Community of Oregon, the Confederated Tribes of Siletz Indians, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes of the Warm Springs Reservation of Oregon, and the Nez Perce Tribe (collectively, the "the Tribes") to ensure the Tribes' participation in RI/FS activities at the Site.

**Section XXII. of the AOC is amended in the following ways:**

The title to Section XXII. is amended to be **"REIMBURSEMENT OF EPA AND TRIBAL RESPONSE COSTS"**

A paragraph 6 is added and set forth below:

6. EPA funding to support Tribal participation at CERCLA sites is increasingly uncertain. In order to advance an efficient, focused, collaborative RI/FS for the Site, Respondents desire to fund the Tribes' response and oversight costs consistent with EPA policy, regulations, and guidance on supporting Tribal involvement, regardless of the availability of federal funds.

A paragraph 7 is added and set forth below:

7. Respondents may pay directly response and oversight costs incurred by the Tribes in the amount and in the manner as the Respondents and one or more of the Tribes may agree. If requested by Respondents, EPA will review annually Tribal budgets and invoices for costs payable under this paragraph for the sole purpose of determining if the costs are within the

**Portland Harbor Superfund Site RI/FS AOC, Amd. No. 1**

scope of the Consent Order and consistent with the NCP. EPA will use best efforts to make its determination within sixty (60) days of EPA's receipt of the budgets or invoices. EPA's determination under this paragraph is not subject to Section XVIII. of this Consent Order (Dispute Resolution). If no agreement exists between the Respondents and the Tribes, Respondents shall have no obligation to pay Tribes' response and oversight costs directly pursuant to this paragraph. Nothing in this paragraph, however, affects Respondents' obligations under this Consent Order to reimburse EPA's response and oversight costs, including Tribal cooperative agreement costs, pursuant to paragraph 1 of this Section.

ADMINISTRATIVE ORDER ON CONSENT, DOCKET NO. CERCLA 10-2001-0240  
AMENDMENT NO. 1 IS APPROVED AND ORDERED

Issued this 16th day of June, 2003

BY: Sylvia Kawabata  
Sylvia Kawabata, Manager  
Site Assessment and Environmental Cleanup Unit #2

Portland Harbor Superfund Site RI/FS AOC, Amd. No. 1

RESPONDENTS hereby consent to the issuance of this Amended order, and agree to abide by each and every provision to Administrative Order on Consent, Docket No. CERCLA 10-2001-0240 as amended herein.

For ConocoPhillips Company  
(formerly TOSCO Corporation)

DV

BY: William J. Lundeen DATE: 5/4/2003  
Name: William J. Lundeen  
Title: RMR Regional Manager

For ATOFINA Chemicals, Inc.

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

For Chevron U.S.A., Inc.

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

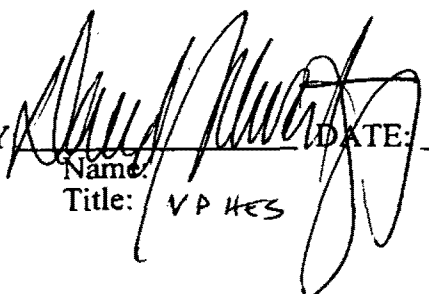
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For ConocoPhillips Company  
(formerly TOSCO Corporation)

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Name:  
Title:

For ATOFINA Chemicals, Inc.

BY:  DATE: 5/16/03  
Name:  
Title: VP HES

For Chevron U.S.A., Inc.

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Name:  
Title:

Portland Harbor Superfund Site RI/FS AOC, Amd. No. 1

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For ConocoPhillips Company  
(formerly TOSCO Corporation)

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Name:  
Title:

For ATOFINA Chemicals, Inc.

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Name:  
Title:

For Chevron U.S.A., Inc.

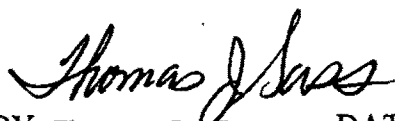
BY:  DATE: May 1, 2003  
Name: Gordon Turl  
Title: Business Unit Manager  
Superfund and Property Management  
Chevron Environmental Management Company

Portland Harbor Superfund Site RI/FS AOC, Amd. No. 1



RESPONDENTS hereby consent to the issuance of this Amended order, and agree to abide by each and every provision to Administrative Order on Consent, Docket No. CERCLA 10-2001-0240 as amended herein.

For Gunderson, Inc.



BY: Thomas J. Sass DATE: May 13, 2003  
Name: Thomas J. Sass  
Title: President

For Northwest Natural Gas

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Name:  
Title:

For City of Portland

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Name:  
Title:

For Port of Portland

BY: \_\_\_\_\_ DATE: \_\_\_\_\_

**Portland Harbor Superfund Site RI/FS AOC, Amd. No. 1**

RESPONDENTS hereby consent to the issuance of this Amended order, and agree to abide by each and every provision to Administrative Order on Consent, Docket No. CERCLA 10-2001-0240 as amended herein.

For Gunderson, Inc.

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Name:  
Title:

For Northwest Natural Gas

BY: Beth A. Ugoretz DATE: 5-6-03  
Name: Beth A. Ugoretz  
Title: Sr VP, General Counsel

For City of Portland

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Name:  
Title:

For Port of Portland

BY: \_\_\_\_\_ DATE: \_\_\_\_\_

**Portland Harbor Superfund Site RI/FS AOC, Amd. No. 1**

For City of Portland

BY: Dan Saltzman DATE: 6/9/03

Name: Dan Saltzman

Title: City Commissioner, Public Affairs

**Portland Harbor Superfund Site RI/FS AOC, Amd. No. 1**

RESPONDENTS hereby consent to the issuance of this Amended order, and agree to abide by each and every provision to Administrative Order on Consent, Docket No. CERCLA 10-2001-0240 as amended herein.

For Gunderson, Inc.

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Name:  
Title:

For Northwest Natural Gas

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Name:  
Title:

For City of Portland

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Name:  
Title:

For Port of Portland

**APPROVED AS TO LEGAL SUFFICIENCY**

**FOR THE PORT**

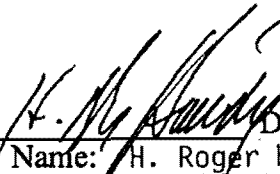
By: \_\_\_\_\_  
Counsel for the Port of Portland

BY:  \_\_\_\_\_ DATE: \_\_\_\_\_

Portland Harbor Superfund Site RI/FS AOC, Amd. No. 1

RESPONDENTS hereby consent to the issuance of this Amended order, and agree to abide by each and every provision to Administrative Order on Consent, Docket No. CERCLA 10-2001-0240 as amended herein.

For Time Oil Co.

BY:  DATE: May 1, 2003  
Name: H. Roger Holliday  
Title: President

26511/03 Kelly

For Union Pacific Railroad Company

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Name:  
Title:

For Oregon Steel Mills, Inc.

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Name:  
Title:

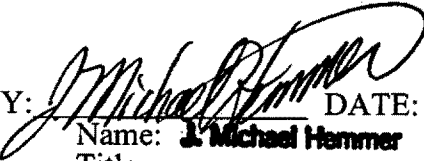
Portland Harbor Superfund Site RI/FS AOC, Amd. No. 1

RESPONDENTS hereby consent to the issuance of this Amended order, and agree to abide by each and every provision to Administrative Order on Consent, Docket No. CERCLA 10-2001-0240 as amended herein.

For Time Oil Co.

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Name:  
Title:

For Union Pacific Railroad Company

BY:  DATE: 5-1-03  
Name: **Michael Hammer**  
Title: **Vice President - Law**

For Oregon Steel Mills, Inc.

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Name:  
Title:

**Portland Harbor Superfund Site RI/FS AOC, Amd. No. 1**

RESPONDENTS hereby consent to the issuance of this Amended order, and agree to abide by each and every provision to Administrative Order on Consent, Docket No. CERCLA 10-2001-0240 as amended herein.


For Time Oil Co.

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Name:  
Title:

For Union Pacific Railroad Company

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Name:  
Title:

For Oregon Steel Mills, Inc.

BY:  DATE: 5/6/03  
Name: L. L. Adams  
Title: CFO

Portland Harbor Superfund Site RI/FS AOC, Amd. No. 1

ENVIRONMENTAL PROTECTION AGENCY REGION X

IN THE MATTER OF:

Portland Harbor Superfund Site

Arkema, Inc. (formerly ATOFINA Chemicals, Inc.),  
Chevron U.S.A., Inc., Gunderson, Inc., Northwest  
Natural Gas, City of Portland, Port of Portland, Time  
Oil Co., ConocoPhillips Company (formerly  
Tosco Corporation), Union Pacific Railroad Company,  
Oregon Steel Mills, Inc.

U.S. EPA Docket Number  
CERCLA-10-2001-0240

AMENDMENT NO. 2

Proceeding Under Sections 104, 122(a), and 122(d)(3)  
of the Comprehensive Environmental Response,  
Compensation, and Liability Act (CERCLA),  
as amended, 42 U.S.C. §§ 9604, 9622(a), 9622(d)(3).

ADMINISTRATIVE SETTLEMENT AGREEMENT AND  
ORDER ON CONSENT FOR REMEDIAL INVESTIGATION/FEASIBILITY STUDY

The undersigned hereby unanimously agree the ADMINISTRATIVE ORDER ON CONSENT FOR  
REMEDIAL INVESTIGATION/FEASIBILITY STUDY issued on September 28, 2001 is AMENDED as  
follows:

CAPTION

For CERCLA purposes the title, Administrative Order on Consent for Remedial Investigation/Feasibility Study  
is amended to "Administrative Settlement Agreement and Order on Consent for Remedial  
Investigation/Feasibility Study."

I. INTRODUCTION

The Section is amended to add the sentence:

For CERCLA purposes, all references to "Consent Order" or "Order" are amended to "Settlement Agreement."



## **XXI. RESERVATION OF RIGHTS**

The first sentence of Section XXI(4) is deleted.

Sections XXIX and XXX are added, as follows:

## **XXIX. COVENANT NOT TO SUE BY EPA**

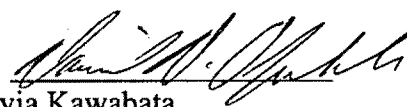
In consideration of the actions that will be performed and the payments that will be made by Respondents under the terms of this Settlement Agreement, and except as otherwise specifically provided in this Settlement Agreement, EPA covenants not to sue or to take administrative action against Respondents pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for the Work and Response Costs, as defined in Section XXX. below. This covenant not to sue shall take effect upon the effective date and is conditioned upon the complete and satisfactory performance by Respondents of all obligations under this Settlement Agreement, including, but not limited to, payment of Response Costs pursuant to Sections XXII, as amended by Amendment No. 1 and XXIII. This covenant not to sue extends only to Respondents and does not extend to any other person.

## **XXX. CONTRIBUTION**

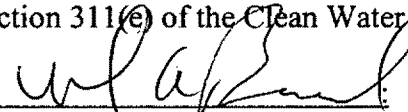
The Parties agree that this Settlement Agreement constitutes an administrative settlement for purposes of Section 113(f)(2) of CERCLA, 42 U.S.C. § 9613(f)(2), and that Respondents are entitled, as of the effective date, to protection from contribution actions or claims as provided by Sections 113(f)(2) of CERCLA, 42 U.S.C. §§ 9613(f)(2), for “matters addressed” in this Settlement Agreement. The “matters addressed” in this Settlement Agreement are the work performed and required to be performed under this Administrative Settlement as required by Section VII (Work to be Performed) (“Work”) and all costs paid and required in the future to be paid under Section XXII, as amended by Amendment No. 1, (Reimbursement of EPA and Tribal Response Costs) and Section XXIII (Reimbursement of DEQ Response Costs) (“Response Costs”). The Parties Agree that this Settlement Agreement constitutes an administrative settlement for purposes of Section 113(f)(3)(B) of CERCLA, 42 U.S.C. § 9613(f)(3)(B), pursuant to which Respondents have, as of the effective date, resolved their liability to the United States for the “matters addressed.” Nothing in this Settlement

Agreement precludes the United States or Respondents from asserting any claims, causes of action, or demands for indemnification, contribution, or cost recovery against any persons not parties to this Settlement Agreement. Nothing herein diminishes the right of the United States, pursuant to Sections 113(f)(2) and (3) of CERCLA, 42 U.S.C. § 9613(f)(2)(3), to pursue any such persons to obtain additional response costs or response action and to enter into settlements that give rise to contribution protection pursuant to Section 113(f)(2).

It is so ORDERED and AGREED this      day of 27, 2006.

By:   
for Sylvia Kawabata  
Site Assessment and Environmental Cleanup Unit #  
U.S. EPA, Region X

For purposes of Section 311(e) of the Clean Water Act:

By:   
Michael A. Bussell, Director  
Office of Compliance and Enforcement

RESPONDENT hereby consents to the issuance of this Amendment No. 2 to the Administrative Settlement Agreement and Order on Consent, and agrees to abide by each and every provision to Settlement Agreement, Docket No. CERCLA 10-2004-0009, as amended.

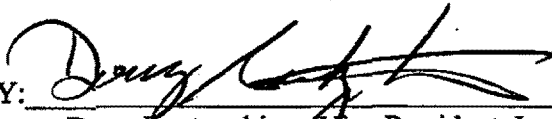
Agreed this \_\_\_\_ day of \_\_\_\_\_, 2006.

For ConocoPhillips Company  
(formerly TOSCO Corporation)

BY: William A. Kitchen DATE: 4-11-06  
Name: William A. Kitchen  
Title: mgr. Risk Mgt & Remediation

RESPONDENT hereby consents to the issuance of this Amendment No. 2 to the Administrative Settlement Agreement and Order on Consent, and agrees to abide by each and every provision to Settlement Agreement, Docket No. CERCLA 10-2004-0009, as amended.

For Arkema Inc. (formerly ATOFINA Chemicals, Inc.)

BY:  DATE: 4/26/06  
Doug Loutzenhiser, Vice President, Legacy Site Services LLC as agent for Arkema Inc.  
*Executive*  
*DL*

RESPONDENT hereby consents to the issuance of this Amendment No. 2 to the Administrative Settlement Agreement and Order on Consent, and agrees to abide by each and every provision to Settlement Agreement, Docket No. CERCLA 10-2004-0009, as amended.

For Chevron U.S.A., Inc.


BY: Robert John DATE: 4/24/06

Name: Robert John

Title: Business Unit Manager  
Superfund and Property Management  
Chevron Environmental Management Company

RESPONDENT hereby consents to the issuance of this Amendment No. 2 to the Administrative Settlement Agreement and Order on Consent, and agrees to abide by each and every provision to Settlement Agreement, Docket No. CERCLA 10-2004-0009, as amended.

For Gunderson, Inc.  
LLC.

BY:  DATE: 4/11/06  
Name: T.J. SASS  
Title: PRESIDENT

Portland Harbor Superfund Site RI/FS AOC, Amd. No. 2

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RESPONDENT hereby consents to the issuance of this Amendment No. 2 to the Administrative Settlement Agreement and Order on Consent, and agrees to abide by each and every provision to Settlement Agreement, Docket No. CERCLA 10-2004-0009, as amended.

For Northwest Natural Gas

BY: Margaret D. Kirkpatrick DATE: 7-7-06  
Name: Margaret D. Kirkpatrick  
Title: Vice President, General Counsel

RESPONDENT hereby consents to the issuance of this Amendment No. 2 to the Administrative Settlement Agreement and Order on Consent, and agrees to abide by each and every provision to Settlement Agreement, Docket No. CERCLA 10-2004-0009, as amended.

For City of Portland

BY:  DATE: April 20, 2006  
Name: Sam Adams  
Title: Commissioner of Public Utilities



RESPONDENT hereby consents to the issuance of this Amendment No. 2 to the Administrative Settlement Agreement and Order on Consent, and agrees to abide by each and every provision to Settlement Agreement, Docket No. CERCLA 10-2004-0009, as amended.

For Port of Portland



BY: April 11, 2006 DATE:

Name: Bill Wyatt

Title: Executive Director


RESPONDENT hereby consents to the issuance of this Amendment No. 2 to the Administrative Settlement Agreement and Order on Consent, and agrees to abide by each and every provision to Settlement Agreement, Docket No. CERCLA 10-2004-0009, as amended.

For Union Pacific Railroad Company

BY: Michael L. Whitcomb DATE: 4-21-06  
Name: Michael L. Whitcomb  
Title: AVP - Law Department


RESPONDENT hereby consents to the issuance of this Amendment No. 2 to the Administrative Settlement Agreement and Order on Consent, and agrees to abide by each and every provision to Settlement Agreement, Docket No. CERCLA 10-2004-0009, as amended.

For Time Oil Co.

BY:  DATE: 4/10/06  
Name: Richard Gordon  
Title: General Counsel & Asst Secy.

RESPONDENT hereby consents to the issuance of this Amendment No. 2 to the Administrative Settlement Agreement and Order on Consent, and agrees to abide by each and every provision to Settlement Agreement, Docket No. CERCLA 10-2004-0009, as amended.

For Oregon Steel Mills, Inc.

BY:  DATE: 4/4/06  
Name: Ray Adams  
Title: CEO